The
Benjamin Smith Lyman
Collection

Given as a Memorial
to
Forbes Library
Northampton, Mass.
by
His Heirs

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X.

to the Japanese.

Sir,

Kaitakushi, Shiba, 15. Aug. 1875.

Messrs. Van Lissa Brothers,
No. 10, Yokohama.

Gentlemen:

I am sorry I am not authorized to leave the Engineers Quarters that you may see the other way, and beg you will [illegible] for some days be unable [illegible] Yokohama as yet, I should feel very much obliged if you would call [illegible] there is anything you would like to be in Yedo on [illegible] other business. Those that need best care I might [illegible] keep a servant if you think that would be safe.

Yours very truly,

Benj. Smith Lyman.
Chief Geologist & Mining Engineer
to the Kaitakushi.

3

The Kaiserkuchi
& B.C. Railway Co.

Dr.

To	40 wooden rods for mineral table	2,66
"	11 " " for mineral boxes	283½
"	1 Locomotive and Tables	1,63
"	1 Small brass for engine book	1,00
"	1 Weighing machine complete	0,66
"	500 Book mineral Cards	2000
		28.97

Received Payment

List of things ordered for the
Geological Collection.

8 Mineral tables complete with locks
and wooden rods ——— Cm 140.80
48 wooden rods for drawers of old tables ——— 17.—
2 Locks with small boards and
hinges for same tables ——— 1.—
1 oo Paper Mineral labels ——— 1.—
3000 Mineral trays ——— 31.00
189.61

17 Jan: 1875. E & O.E.

Henj. Smith Lyman
Geological and Mining Engineer
Otto Kantakuchi

Jamaica, Saint Mary's Parish. 19 Nov. 1831.

W. G. Howell Esq.
No. 32 Fetter Lane.

Dear Sir:

I have to thank you for the receipt given by the purser of the [illegible] for a large ugly [illegible] which we received safely by the Manchester. I should indeed be glad to make it be delivered at your [illegible] correcting many [illegible] there [illegible] but for it having been [illegible] occurs to me that you would excuse the first from any motive but friendliness you are given [illegible] have never had any reason to suppose [illegible] feelings towards us as your first however much [illegible] I trust I shall remain a most [illegible] by you the affairs of my country [illegible] fully aware that my [illegible] indignant the cupid and to hastily [illegible] opinions I am still rather desirous that [illegible] published as a protest [illegible] and [illegible] [illegible] abandon [illegible] [illegible] letter [illegible] [illegible] very [illegible]

[illegible] Buenos Aires, Feb. 6th 1888.

[illegible] Esq.
Vi: [illegible]

Dear Sir:

If [illegible] I might in time
[illegible] give an answer to your [illegible], would
[illegible] clear, perhaps give you as much of
it as I can. If you should [illegible]
[illegible] the sign, please insert the words "or [illegible]
[illegible] yours", after the word "flask" in [illegible]
[illegible] says that it would be well to explain [illegible] that it
[illegible] means only one dozen. This would be [illegible]
[illegible] time "displeasure" not because we [illegible]
your [illegible], but because they were addressed directly
[illegible] by your instructions like you desire to be [illegible]
[illegible]

Yours very truly
[illegible]

[1835]

No. [illegible]

[illegible]

4

[№36]

Ship [illegible] 1873.

His Excellency K. [illegible]
[illegible]

Sir

I am [illegible]
[illegible] Masters & Owners [illegible]
that Mr. Ogden [illegible]
[illegible]
[illegible]
[illegible]
[illegible] that being
[illegible] Ki
[illegible] if I can be no
[illegible] &c.
I [illegible] Kuchi [illegible]
[illegible] will [illegible]

[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]

No. 37.

Shiba, 27 Nov. 1875.

His Excellency K. Kuroda,
Kaitakushi Chokwan,

Sir:

Lest there might some misunderstanding in regard to my last letter (day before yesterday) about the diamond drill, I beg that care may be taken not by any mistake to sell with the other machines that have been made at Yokohama year before last. The [illegible] although not yet needed for [illegible] not very likely to be needed, are almost sure to become useful whenever active coal mining operations shall be undertaken either in the Kayanoma coal field or in the Ishikari valley. If it should be decided to leave all such operations to private parties the tools might be sold to them; but if the government expects to work mines itself, such tools will be found to be a very important accessory in its undertaking.

I have the honor to be, Sir,
Your most obedient servant,
[illegible]
Chief Geologist and [illegible]
to the Kaitakushi.

be obtained of the species represented among the
forwarding of the fossils.

3. If a collection of the fossils
of the rock specimens we have obtained
from Ohio should be sent among the other
Ohio specimens collections to the great exhibition
at Philadelphia, they would doubtless excite
great interest among scientific men. So far, as
possible, before my departure I should be
very happy to assist you in arranging your
collection, and also, if possible, to assist
you in its arrangement there.

4. In case such a collection should be
sent, a space of about 2 feet by 8 feet for
drawing, maps, surveys, diagrams, etc.
or the like, for the exhibition of which boards
be needed, I should be very happy to procure
them, so far as may be possible, by steel, gratis
to any person connected in Ohio, if you have sufficient
confidence in [illegible] to entrust
said to my charge.

Yours &c &c

Mr. Lyman will
be happy to try the boys
of Jaffna Rain Clearing
Steam Launch and
report not only his own
opinion but if possible that
of the foreman who may
perhaps be better judges.
C.C. 22nd Oct. 1875.

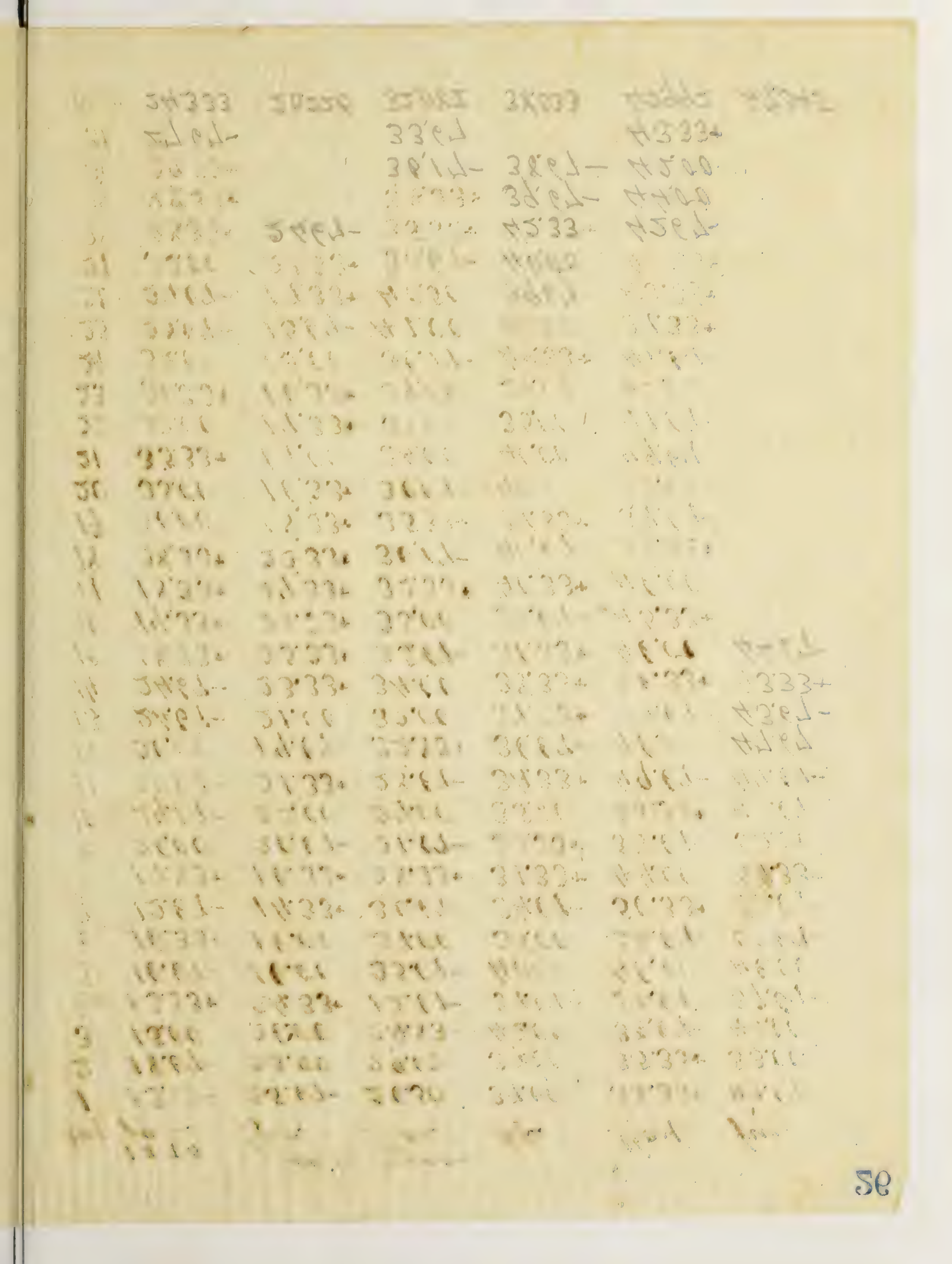
Monthly Averages of

1874	1	2	3	Means
[illegible]	36.91	32.1	31.72	36.53
Feb.	33.32	32.00	29.82	28.35
[illegible]	30.13	31.00	31.11	[illegible]
[illegible]	29.30	30.27	31.01	30.10
[illegible]	29.00	29.14	29.42	29.70
[illegible]	52.37	53.71	52.50	53.16
[illegible]	64.13	63.11	62.53	[illegible]
[illegible]	60.30	60.31	60.15	60.11
[illegible]	60.33	60.11	60.11	[illegible]

	Jan.	Feb.	Mar.	Apr.	May	Jun.	
1	2.54	2.60	36.14	34.33	46.00	3.00	
2	26.33	33.00	32.00	40.33	44.64	32.33	
3	28.33	6.67	30.33	34.00	42.00	46.00	
4	31.33	32.00	33.64	36.67	42.00	42.33	
5	29.67	31.33	33.67	34.33	50.00		
6	28.00	28.64	31.00	42.33	32.33		
7	33.00	26.67	31.33	33.64	31.64	36.00	
8	34.33	29.67	36.67	39.33	47.33	47.00	
9	36.33	24.67	34.00	42.00	44.33	5	
10	28.33	25.00	31.67	42.67	44.33	5	
11	29.00	23.33	25.67	42.00	34.00	5	
12	33.33	26.00	23.00	41.33	43.00	52.33	
13	31.67	32.67	36.33	35.33	42.67	42.67	
14	28.33	30.67	29.00	42.67	44.67	44.67	
15	25.00	31.33	34.00	35.00	42.33	43.33	
16	30.67	29.33	31.00	40.33	39.33	44.67	
17	31.67	34.67	33.00	44.33	43.00	44.00	
18	29.00	31.67	34.00	41.00	42.00	38.33	
19	29.67	28.67	38.33	37.33	37.33	47.33	
20	23.67	26.33	37.67	40.00	41.00	43.00	
21	29.00	31.67	34.00	42.67	39.00	38.33	
22	28.33	27.00	31.67	36.00	42.33	53.33	
23	26.33	28.33	31.33	36.33	40.00	50.00	
24	30.00	31.67	32.67	41.00	39.00	51.00	
25	30.00	32.67	33.67	41.33	38.67	50.00	
26	29.33	28.00	31.00	38.00	37.33	43.33	
27	26.33	25.67	33.67	39.67	40.00	44.00	
28	32.00		33.67	40.00	40.67	46.00	
29	28.33		32.67	43.67	39.00	46.00	
30	34.33		30.33		43.67		
31							
Ave.	30.086	28.381	32.538	39.438	42.700		

1	£1.1.-	73.00	58.33+	41.00	42.00	34.
2	33.67-	£9.00	64.00	53.33+	44.00	34.
3	£6.00	£2.33+	58.00	32.67-	47.00	43.
4	£1.33+	78.67-	72.00	54.33+	45.67-	31.
5	59.00	71.67-	61.00	57.33+	47.33+	31.
6	54.00	73.33+	£1.67-	36.33+	44.33+	36.67-
7	55.33+	71.00	£3.33+	53.67-	43.00	31.
8	57.33+	75.33+	£3.67-	60.67-	44.67-	33.
9	51.67-	75.33+	£4.00	33.67-	43.33+	31.
10	57.00	71.33+	£2.33+	56.67-	41.00	30.
11	52.67-	£9.67-	£7.33+	51.33+	42.67-	30.
12	58.67-	66.67-	76.67-	50.33+	38.67-	30.
13	£3.33+	£1.33+	£4.33+	33.67-	33.67-	30.
14	£2.67-	71.33+	£3.33+	37.67-	37.00	30.
15	£3.67-	£9.00	£1.33+	51.00	34.67-	33.
16	£1.00	£7.33+	57.00	51.00+	35.33	33.
17	£6.33+	72.00	56.00	51.00	42.67-	31.
18	£1.67-	£3.33+	£3.00	47.67-	37.00-	30.
19	£3.00	75.00	£1.67-	47.33+	39.00	30.
20	£1.00	71.67-	£2.33+	51.67-	41.67-	33.
21	£3.00	£3.33+	£3.67-	51.00	44.33+	34.
22	58.67-	£2.33+	£7.33+	53.00	42.67-	31.
23	£5.00	£3.33+	58.33+	57.00	43.67-	32.
24	£7.00	£4.00	£1.67-	57.67-	45.67-	32.
25	£1.00	£1.67-	£3.67-	52.67-	31.33+	29.
26	£0.67-	£5.00	56.67-	41.00	33.33+	30.
27	£6.67-	£3.33+	£3.67-	38.00	32.00	30.
28	£2.00	£2.00	£2.67-	41.00	33.67-	
29	71.67-	£1.67-	58.00	53.33+	40.00	30.
30	£6.00	£1.67-	58.33+	41.33+	33.00	30.
31	74.00	58.67				
Sum	£2.67	£87.10	£2244	1161	920	30705

1	13.67-	25.67-	26.50	34.00	33.33+	41.67
2	15.67-	23.00	29.67-	34.00	33.33+	43.00
3	15.00	26.00	29.33	34.00	37.33+	43.00
4	13.33+	24.33+	32.67-	36.00	39.67-	43.67
5	16.67	18.00	35.67-	40.00	36.00	43.00
6	16.33+	16.00	34.00	33.00	34.67-	41.67-
7	12.67-	14.33+	31.00-	34.00	30.33+	40.00
8	11.33+	16.33+	24.33+	31.33+	44.00	44.33
9	26.00	20.67-	21.67-	34.33+	33.67	43.33
10	27.67-	24.00	27.00	33.33	43.33+	42.33
11	21.67-	21.33+	25.67-	34.33+	49.67	47.67
12	21.00	19.67	23.33+	31.67-	44.00	47.67
13	24.67-	21.00	29.00	30.00	41.00	43.67-
14	24.67-	23.33+	34.00	33.33+	44.33+	43.33
15	18.33+	25.33+	36.67-	36.33+	46.00	44.67
16	19.33+	25.33+	34.00	34.67-	45.33+	
17	18.33+	27.33+	32.33+	41.33+	46.00	
18	28.33+	23.33+	31.67-	44.67	41.33+	
19	26.00	25.00+	33	36.67	44.00	
20	35.00	17.33+	30.67-	42.00	44.67	
21	33.33+	19.00	33.00	41.00		
22	32.00	17.33+	31.00	38.00		
23	31.33+	16.33+	32.00	38.67		
24	34.00	23.00	30.00	40.33+	44.67	
25	33.67-	19.33+	41.00	44.67	43.33+	
26	34.67-	17.33+	41.00	39.67		
27	32.00	21.33+	34.67-	40.00		
28	28.33+	24.67-	35.33+	42.33+	42.67-	
29	28.33+		38.33+	39.67-	44.00	
30	30.00+		36.17-	38.67-	42.00	
31	27.67-		33.67		43.33+	
	24.333	20.226	32.082	38.033	42.942	47.545



Quarterly and Yearly Averages.

1873
Mar 1st May — Spring — average — 39.577+
Jun Aug — Summer — " — 42.036+
Sept Oct 31st — Autumn — " — 31.274+
1874 1875
Dec Jan Feb — Winter — " — [illegible]
1875
Mar 1st May — Spring — " — 39.891+

1874 Mar 1st 1875 May 1st.
Average of one year — 44.264+

Shiba, 2 Dec. 1875.

My dear Mr. Yamaoka,

I have the pleasure of sending you herewith the usual tables of daily, monthly, quarterly and yearly averages of the meteorological observations at Nemuro in 1874 and 1875. These have been very carefully computed under my instruction by Mr. Adachi from the original observations that you forwarded me and that have returned.

I fear however that the tables will prove of no value unless you should obtain from Nemuro: 1° the name of the observer; 2° the hours at which he took the observations each day; 3° a short written description of the position in which the thermometers hung, whether entirely in the open air, and whether exposed or not to the reflected heat from a neighbouring wall, whether in the shade or otherwise; the reading against which will give some idea as to the exposure, and how high above the ground or floor the thermometers themselves hung; 4° a description of the barometer itself, whether mercurial or aneroid, so as to be able to guide ourselves by its corrections.

Very truly yours, Thos. Main Lowson

1139.

Shiba, 2 Dec. 1873.

H. E. Excellency H. Kuroda,
Kudanchoshuu.

Sir.

When the surveying instruments lately received from America were ordered to be used [illegible] I was [illegible] to the [illegible] for the purpose of their cost, [illegible] by your instructions that a [illegible] Washington would pay for them. It has occurred to me that the [illegible] in sending for these things from America [illegible] and I suggest to pay me part of the minister, and that they may [illegible] but with the exception of [illegible] the bill. In order to [illegible] Kinning that there [illegible] difficulty in [illegible] to the manufacturer for information but may [illegible]

departure, and by the person [illegible] you may cause investigation to be made here as to whether the instruments have been paid for or not. No bill or letter in regard to [illegible] has come; but they were addressed and marked: "Order #1413" [illegible] United States currency [illegible]

[illegible]

Your most obedient servant
Mary Smith Lyman.
Recapitulation of my
to the Institution.

No. 40.

Shiba, 6 Dec. 75.

His Excellency K. Kuroda,
Kaitakuchokwan.

Sir:

1. I have to thank you for your favor of day before yesterday referring to my suggestion in regard to the printing of reports and maps. In case of my early return to America I could, if you like, see to the printing of the reports there probably at much less expense than would be required here, and at the same time be able to correct the proofs myself.

2. Before going I will try to select a sufficient number of books from among those we have collected and, if possible, those only of which there are duplicates; so that even any unexpected accidents to the selected ones would not be serious, and having sent them with my own baggage to America at little or no expense, will try to get such information in regard to them as may be possible without forgetting your injunction to economy.

In forwarding of the specimens &c &c
for the Philadelphia Exhibition.

reference to the mineral Collection, & make any
& suggest points, in the event of any conference
between you and that Bureau, that the Minor
Minor Arts & the Exhibition would undoubtedly
excite very great interest indeed. It has occurred
to me that they might be sent at very little if any
additional expense, because they might be of
service in the place of cowlies in the handling
& care of the objects sent by the Bureau.

I have the honor to be

Sir,

Your most Obedient Servant,

Benj: Smith Lyman.

Chief Geologist and Mining Engineer
& Mr Kaitabeni.

No 16. Shiba, 5 Dec. 87.

His Excellency K. Kuroda,
Kaitakushi Kaichoo.

Sir:

I have to offer my sincerest thanks for the very kind expressions of your letter of yesterday accompanying the valuable gifts of Encyclopedia and an extremely valuable collection of Japanese working. It gives me great pleasure to find that you are in the whole enterprise with my efforts to do my duty towards the Kaitakushi, yet to all the end. I feel ashamed to accept the gifts, and hope you will not take it as rudeness on my part if I beg most respectfully but firmly to decline them.

I have the honor to be,

Sir,

Your most obedient servant,

Henry Smith Lyman,

Chief Geologist & Mineralogist.

7

182

[illegible] [illegible] 187[illegible]

Sir Excellency K. [illegible]
Kaiean[illegible]

Sir:

Your favor of the fourth [illegible] the diamond drill came duly [illegible] mentioning as a reason [illegible] the drill the fact that it has [illegible] only been provided to [illegible] [illegible] I should perhaps [illegible] [illegible] obtain buyer [illegible] [illegible] send [illegible] [illegible] [illegible] [illegible] [illegible] much more [illegible] than [illegible] could send [illegible] [illegible] like it.

[illegible] it is [illegible] other [illegible] [illegible] [illegible] place and [illegible] remember rightly [illegible] without the slightest [illegible] with [illegible] but [illegible] is not likely [illegible] to be [illegible] [illegible] would seem [illegible] drilling worth while to keep if it can be sold at all reasonably.

I have the honor to be, Sir,
Your most obedient
Benj. Smith Lyman

No 43.

Shiba, 7 Dec 1875.

His Excellency K. Kuroda,
Kaitakushicho.

Sir:

As my stage of service has now ended I shall be happy if there are either [illegible] or [illegible], or any other person you may [illegible] to receive implements and articles that have been entrusted to me for the Geological Survey and [illegible] to be [illegible] by me. As I shall however probably be detained for some little time in daily attendance at the office, the matter can be attended to at your convenience.

I shall also be happy to return the shipping [illegible] at any time you may be ready to receive.

I have the honor to be,

Sir,

Your most obedient servant

Benj. Smith Lyman

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"	1335 m	1157	130°E	26°S.E.
"	1331 c-9	1157	145°E	24°E.
"	1331 c	1137	135°E	23°E.

3

Kök.

No 44

Sitka 9 Dec. 1873.

To Excellency N. Rumsha,
Petersburgh

Sir.

The enclosed offer of the Sofei
Company Coupon of 6 bales 2nd rob.s
Hall Cole & Co. unassorted Coal Pitch
I have provisionally to you for your
approval, and I beg to recommend its
acceptance.

I have the honor to be
Sir,
Your most obedient Servt
W. Smith Agent.

4.

Rock

	Strike	

No 45.

Shiba, 11 Dec 1873.

His Excellency K. Kuroda,
Kaitakushikwan.

Sir,

I have to thank you for your letter and yesterday kindly obliging the acceptance of your gift as "more trifles", but by your very first instead of unconditional, craving indulgence for a first feeling in the matter I beg to insist in declining them and have

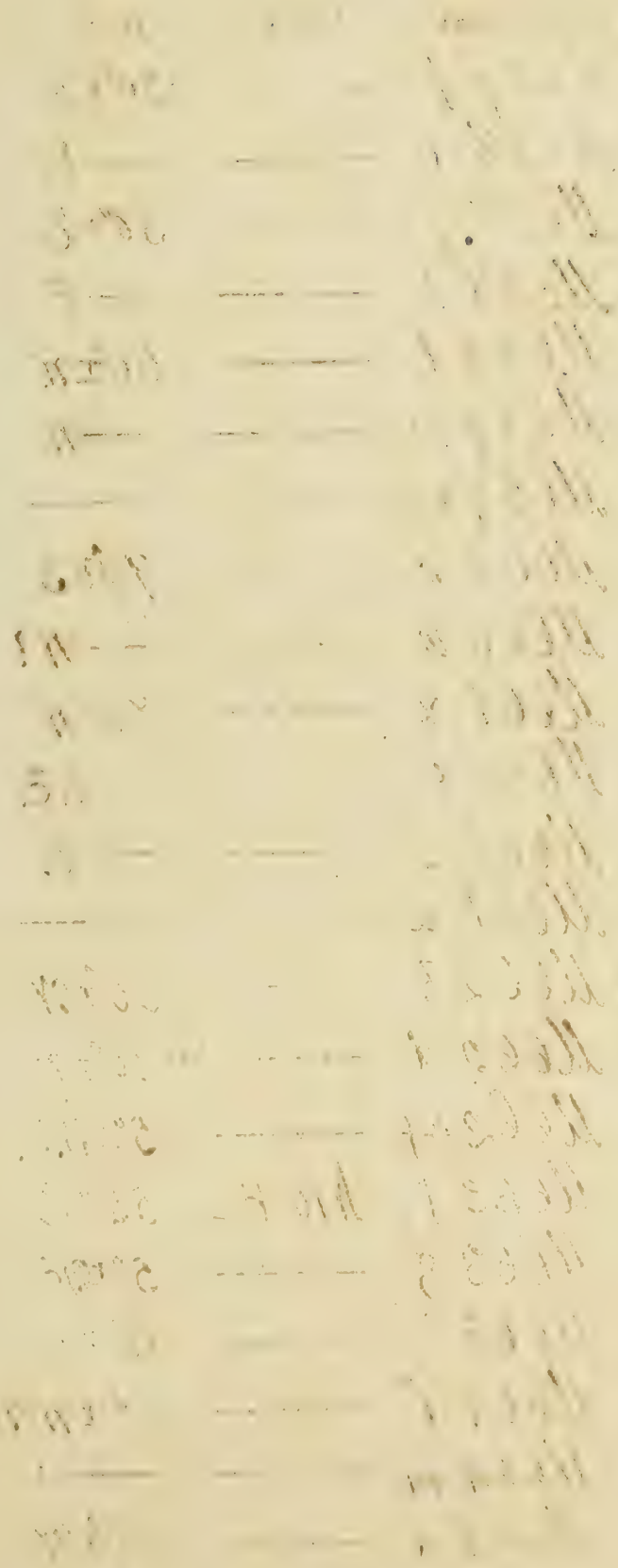
Sir,

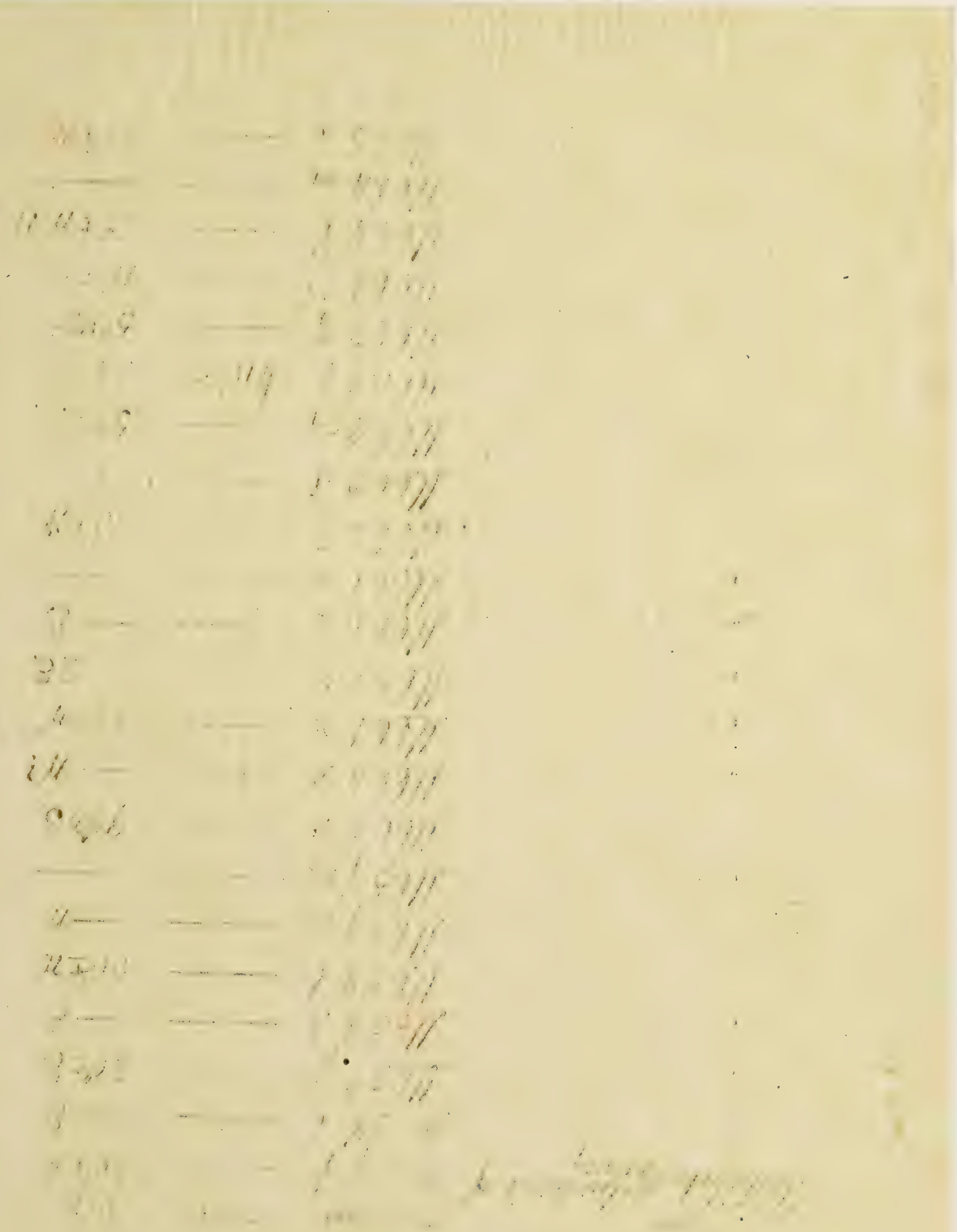
Your most obedient Servant

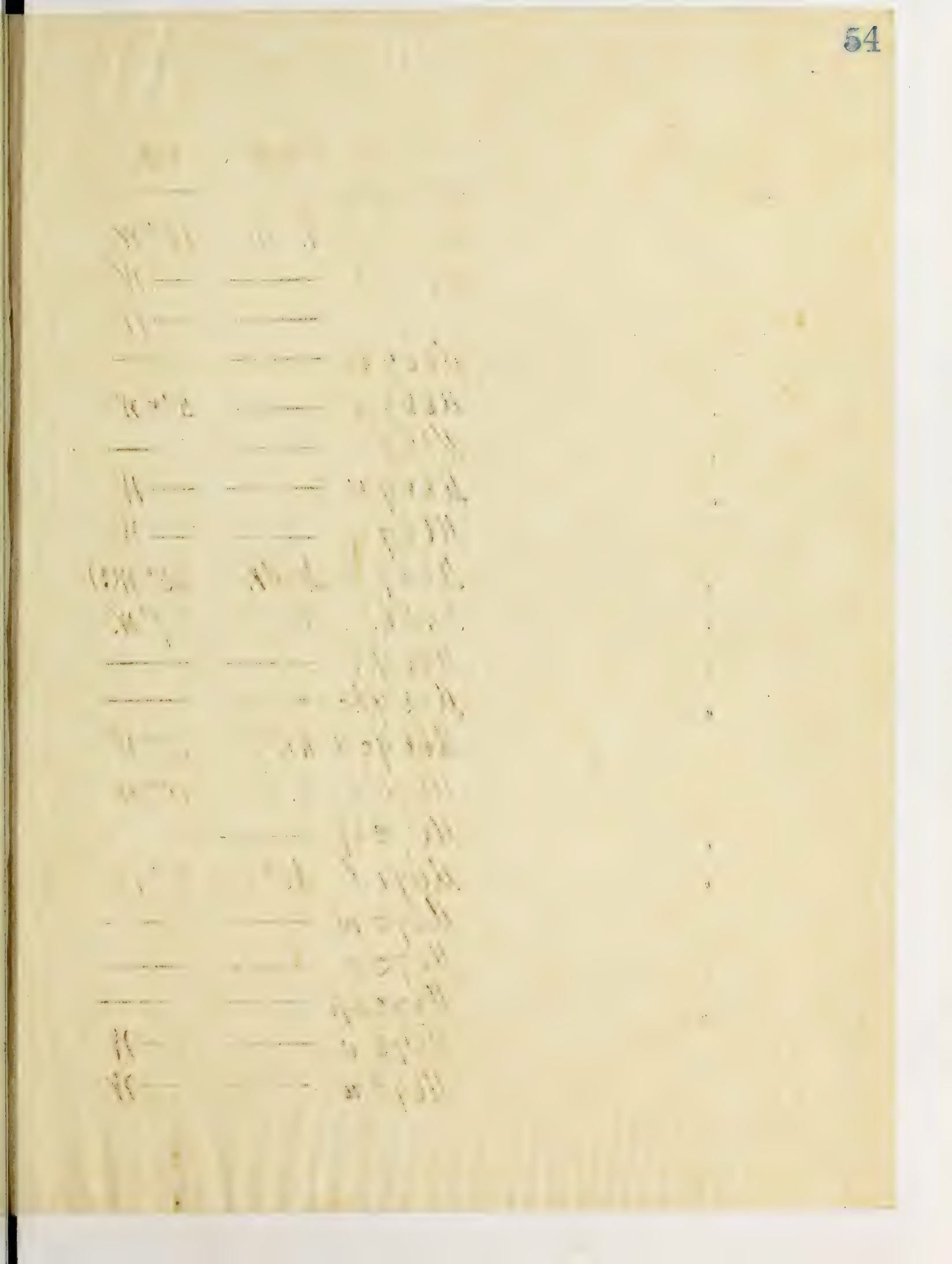
Edith Cappon.

Geological Notes

Tasmania to Java.







Name	Art, Buch	Stücke	Lage
Lilien	Ll 75 g	A 15 M.	5° W
	Ll 79 r		— N
	Ll 80 k		
	Ll 93 f	A 9 St.	12° E.
	Ll 93 g		
	Ll 93 h	A 9 St.	1 — 4
		A 8 St.	
		A 7 St.	
		A 6 St.	
	Ll 96 a		
	Ll 96 b		
Lichtenstein	Ll 96 c	A 6 St.	
		A 5 St.	
Lichtenstein	Ll 96 d	— —	—
Lichtenstein	Ll 96 e	A 5 St.	
		A 4 St.	
		A 3 St.	
Lichtenstein	Ll 96 f	A 3 St.	20° E.
		A 2 St.	
		A 1 St.	
	Ll 96 g	A 1 St.	15° N.
Lichtenstein	Ll 96 h	— —	—
Lichtenstein	Ll 96 i	— —	—
Lichtenstein	Ll 96 k	— —	—
Lichtenstein	Ll 96 l	— —	—
Lichtenstein	Ll 96 m	— —	—
Lichtenstein	Ll 96 n	— —	—
Lichtenstein	Ll 96 o	— —	—
Lichtenstein	Ll 96 p	— —	—
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Lichtenstein	Ll 96 al	— —	—
Lichtenstein	Ll 96 am	— —	—
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Lichtenstein	Ll 96 ao	— —	—
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Lichtenstein	Ll 96 cr	— —	—
Lichtenstein	Ll 96 cs	— —	—
Lichtenstein	Ll 96 ct	— —	—
Lichtenstein	Ll 96 cu	— —	—
Lichtenstein	Ll 96 cv	— —	—
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Lichtenstein	Ll 96 cx	— —	—
Lichtenstein	Ll 96 cy	— —	—
Lichtenstein	Ll 96 cz	— —	—
Lichtenstein	Ll 96 da	— —	—
Lichtenstein	Ll 96 db	— —	—
Lichtenstein	Ll 96 dc	— —	—
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Lichtenstein	Ll 96 de	— —	—
Lichtenstein	Ll 96 df	— —	—
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Lichtenstein	Ll 96 dl	— —	—
Lichtenstein	Ll 96 dm	— —	—
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Lichtenstein	Ll 96 do	— —	—
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Lichtenstein	Ll 96 dq	— —	—
Lichtenstein	Ll 96 dr	— —	—
Lichtenstein	Ll 96 ds	— —	—
Lichtenstein	Ll 96 dt	— —	—
Lichtenstein	Ll 96 du	— —	—
Lichtenstein	Ll 96 dv	— —	—
Lichtenstein	Ll 96 dw	— —	—
Lichtenstein	Ll 96 dx	— —	—
Lichtenstein	Ll 96 dy	— —	—
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Lichtenstein	Ll 96 eb	— —	—
Lichtenstein	Ll 96 ec	— —	—
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Lichtenstein	Ll 96 jn	— —	—
Lichtenstein	Ll 96 jo	— —	—
Lichtenstein	Ll 96 jp	— —	—
Lichtenstein	Ll 96 jq	— —	—
Lichtenstein	Ll 96 jr	— —	—
Lichtenstein	Ll 96 js	— —	—
Lichtenstein	Ll 96 jt	— —	—
Lichtenstein	Ll 96 ju	— —	—
Lichtenstein	Ll 96 jv	— —	—
Lichtenstein	Ll 96 jw	— —	—
Lichtenstein	Ll 96 jx	— —	—
Lichtenstein	Ll 96 jy	— —	—
Lichtenstein	Ll 96 jz	— —	—
Lichtenstein	Ll 96 ka	— —	—
Lichtenstein	Ll 96 kb	— —	—
Lichtenstein	Ll 96 kc	— —	—
Lichtenstein	Ll 96 kd	— —	—
Lichtenstein	Ll 96 ke	— —	—
Lichtenstein	Ll 96 kf	— —	—
Lichtenstein	Ll 96 kg	— —	—
Lichtenstein	Ll 96 kh	— —	—
Lichtenstein	Ll 96 ki	— —	—
Lichtenstein	Ll 96 kk	— —	—
Lichtenstein	Ll 96 kl	— —	—
Lichtenstein	Ll 96 km	— —	—
Lichtenstein	Ll 96 kn	— —	—
Lichtenstein	Ll 96 ko	— —	—
Lichtenstein	Ll 96 kp	— —	—
Lichtenstein	Ll 96 kq	— —	—
Lichtenstein	Ll 96 kr	— —	—
Lichtenstein	Ll 96 ks	— —	—
Lichtenstein	Ll 96 kt	— —	—
Lichtenstein	Ll 96 ku	— —	—
Lichtenstein	Ll 96 kv	— —	—
Lichtenstein	Ll 96 kw	— —	—
Lichtenstein	Ll 96 kx	— —	—
Lichtenstein	Ll 96 ky	— —	—
Lichtenstein	Ll 96 kz	— —	—
Lichtenstein	Ll 96 la	— —	—
Lichtenstein	Ll 96 lb	— —	—
Lichtenstein	Ll 96 lc	— —	—
Lichtenstein	Ll 96 ld	— —	—
Lichtenstein	Ll 96 le	— —	—
Lichtenstein	Ll 96 lf	— —	—
Lichtenstein	Ll 96 lg	— —	—
Lichtenstein	Ll 96 lh	— —	—
Lichtenstein	Ll 96 li	— —	—
Lichtenstein	Ll 96 lk	— —	—
Lichtenstein	Ll 96 ll	— —	—
Lichtenstein	Ll 96 lm	— —	—
Lichtenstein	Ll 96 ln	— —	—
Lichtenstein	Ll 96 lo	— —	—
Lichtenstein	Ll 96 lp	— —	—
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Lichtenstein	Ll 96 ls	— —	—
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Lichtenstein	Ll 96 to	— —	—
Lichtenstein	Ll 96 tp	— —	—
Lichtenstein	Ll 96 tq	— —	—
Lichtenstein	Ll 96 tr	— —	—
Lichtenstein	Ll 96 ts	— —	—
Lichtenstein	Ll 96 tt	— —	—
Lichtenstein	Ll 96 tu	— —	—
Lichtenstein	Ll 96 tv	— —	—
Lichtenstein	Ll 96 tw	— —	—
Lichtenstein	Ll 96 tx	— —	—
Lichtenstein	Ll 96 ty	— —	—
Lichtenstein	Ll 96 tz	— —	—
Lichtenstein	Ll 96 ua	— —	—
Lichtenstein	Ll 96 ub	— —	—
Lichtenstein	Ll 96 uc	— —	—
Lichtenstein	Ll 96 ud	— —	—
Lichtenstein	Ll 96 ue	— —	—
Lichtenstein	Ll 96 uf	— —	—
Lichtenstein	Ll 96 ug	— —	—
Lichtenstein	Ll 96 uh	— —	—
Lichtenstein	Ll 96 ui	— —	—
Lichtenstein	Ll 96 uk	— —	—
Lichtenstein	Ll 96 ul	— —	—
Lichtenstein	Ll 96 um	— —	—
Lichtenstein	Ll 96 un	— —	—
Lichtenstein	Ll 96 uo	— —	—
Lichtenstein	Ll 96 up	— —	—
Lichtenstein	Ll 96 uq	— —	—
Lichtenstein	Ll 96 ur	— —	—
Lichtenstein	Ll 96 us	— —	—
Lichtenstein	Ll 96 ut	— —	—
Lichtenstein	Ll 96 uu	— —	—
Lichtenstein	Ll 96 uv	— —	—
Lichtenstein	Ll 96 uw	— —	—
Lichtenstein	Ll 96 ux	— —	—
Lichtenstein	Ll 96 uy	— —	—
Lichtenstein	Ll 96 uz	— —	—
Lichtenstein	Ll 96 va	— —	—
Lichtenstein	Ll 96 vb	— —	—
Lichtenstein	Ll 96 vc	— —	—
Lichtenstein	Ll 96 vd	— —	—
Lichtenstein	Ll 96 ve	— —	—
Lichtenstein	Ll 96 vf	— —	—
Lichtenstein	Ll 96 vg	— —	—
Lichtenstein	Ll 96 vh	— —	—
Lichtenstein	Ll 96 vi	— —	—
Lichtenstein	Ll 96 vk	— —	—
Lichtenstein	Ll 96 vl	— —	—
Lichtenstein	Ll 96 vm	— —	—
Lichtenstein	Ll 96 vn	— —	—
Lichtenstein	Ll 96 vo	— —	—
Lichtenstein	Ll 96 vp	— —	—
Lichtenstein	Ll 96 vq	— —	—
Lichtenstein	Ll 96 vr	— —	—
Lichtenstein	Ll 96 vs	— —	—
Lichtenstein	Ll 96 vt	— —	—
Lichtenstein	Ll 96 vu	— —	—
Lichtenstein	Ll 96 vv	— —	—
Lichtenstein	Ll 96 vw	— —	—
Lichtenstein	Ll 96 vx	— —	—
Lichtenstein	Ll 96 vy	— —	—
Lichtenstein	Ll 96 vz	— —	—
Lichtenstein	Ll 96 wa	— —	—
Lichtenstein	Ll 96 wb	— —	—
Lichtenstein	Ll 96 wc	— —	—
Lichtenstein	Ll 96 wd	— —	—
Lichtenstein	Ll 96 we	— —	—
Lichtenstein	Ll 96 wf	— —	—
Lichtenstein	Ll 96 wg	— —	—
Lichtenstein	Ll 96 wh	— —	—
Lichtenstein	Ll 96 wi	— —	—
Lichtenstein	Ll 96 wk	— —	—
Lichtenstein	Ll 96 wl	— —	—
Lichtenstein	Ll 96 wm	— —	—
Lichtenstein	Ll 96 wn	— —	—
Lichtenstein	Ll 96 wo	— —	—
Lichtenstein	Ll 96 wp	— —	—
Lichtenstein	Ll 96 wq	— —	—
Lichtenstein	Ll 96 wr	— —	—
Lichtenstein	Ll 96 ws	— —	—
Lichtenstein	Ll 96 wt	— —	—
Lichtenstein	Ll 96 wu	— —	—
Lichtenstein	Ll 96 wv	— —	—
Lichtenstein	Ll 96 ww	— —	—
Lichtenstein	Ll 96 wx	— —	—
Lichtenstein	Ll 96 wy	— —	—
Lichtenstein	Ll 96 wz	— —	—
Lichtenstein	Ll 96 xa	— —	—
Lichtenstein	Ll 96 xb	— —	—
Lichtenstein	Ll 96 xc	— —	—
Lichtenstein	Ll 96 xd	— —	—
Lichtenstein	Ll 96 xe	— —	—
Lichtenstein	Ll 96 xf	— —	—
Lichtenstein	Ll 96 xg	— —	—
Lichtenstein	Ll 96 xh	— —	—
Lichtenstein	Ll 96 xi	— —	—
Lichtenstein	Ll 96 xk	— —	—
Lichtenstein	Ll 96 xl	— —	—
Lichtenstein	Ll 96 xm	— —	—
Lichtenstein	Ll 96 xn	— —	—
Lichtenstein	Ll 96 xo	— —	—
Lichtenstein	Ll 96 xp	— —	—
Lichtenstein	Ll 96 xq	— —	—
Lichtenstein	Ll 96 xr	— —	—
Lichtenstein	Ll 96 xs	— —	—
Lichtenstein	Ll 96 xt	— —	—
Lichtenstein	Ll 96 xu	— —	—
Lichtenstein	Ll 96 xv	— —	—
Lichtenstein	Ll 96 xw	— —	—
Lichtenstein	Ll 96 xx	— —	—
Lichtenstein	Ll 96 xy	— —	—
Lichtenstein	Ll 96 xz	— —	—
Lichtenstein	Ll 96 ya	— —	—
Lichtenstein	Ll 96 yb	— —	—
Lichtenstein	Ll 96 yc	— —	—
Lichtenstein	Ll 96 yd	— —	—
Lichtenstein	Ll 96 ye	— —	—
Lichtenstein	Ll 96 yf	— —	—
Lichtenstein	Ll 96 yg	— —	—
Lichtenstein	Ll 96 yh	— —	—
Lichtenstein	Ll 96 yi	— —	—
Lichtenstein	Ll 96 yk	— —	—
Lichtenstein	Ll 96 yl	— —	—
Lichtenstein	Ll 96 ym	— —	—
Lichtenstein	Ll 96 yn	— —	—
Lichtenstein	Ll 96 yo	— —	—
Lichtenstein	Ll 96 yp	— —	—
Lichtenstein	Ll 96 yq	— —	—
Lichtenstein	Ll 96 yr	— —	—
Lichtenstein	Ll 96 ys	— —	—
Lichtenstein	Ll 96 yt	— —	—
Lichtenstein	Ll 96 yu	— —	—
Lichtenstein	Ll 96 yv	— —	—
Lichtenstein	Ll 96 yw	— —	—
Lichtenstein	Ll 96 yx	— —	—
Lichtenstein	Ll 96 yy	— —	—
Lichtenstein	Ll 96 yz	— —	—
Lichtenstein	Ll 96 za	— —	—
Lichtenstein	Ll 96 zb	— —	—
Lichtenstein	Ll 96 zc	— —	—
Lichtenstein	Ll 96 zd	— —	—
Lichtenstein	Ll 96 ze	— —	—
Lichtenstein	Ll 96 zf	— —	—
Lichtenstein	Ll 96 zg	— —	—
Lichtenstein	Ll 96 zh	— —	—
Lichtenstein	Ll 96 zi	— —	—
Lichtenstein

8
Sect.

Shore gravel clay rock

" " " "

" " "

" " "

Bluff of volcanic rock clay rock.

" " " "

" " " " " "

" " " "

Bluff of yellow sand [illegible] volcanic rock [illegible]

[illegible] volcanic rock [illegible]

[illegible] valley of [illegible] Sand Hill [illegible]

[illegible] for Ketchikan (see page)

[illegible] above

[illegible]

Volcanic rock.

Granitic gran[illegible]

Redgrave Hall

Redgrave Field.

60

Green tufa
Green Tufa
Blue volcanic
Laminae in
Volcanic rock & tufa?
Fissure in

Shales.
Yellowish Marly
Volcanic rock, resting shale.
Shale with concretions of limestone.
Shale, continuous to Pier.
Volcanic tuffs with basaltic boulders
(Specimens)
Volcanic Shales & thin layers of limestone, to
Volcanic conglomerate & sandstone
Volcanic Agglomerate (with specimens)
Shales, lies upon clay rock.
Clay greenish yellow (with specimens)
Shales
Volcanic sandstone (specimens)
Volcanic conglomerate & gravel beds (with specimens)
Sandstone.
Strata of pumiceous ash, with pebbles
[illegible]
with pumice, very fine.
Shales & sandstones.
Pumice tuff.
Volcanic conglomerate, pumice &c

Third

Marine Series [illegible] white chalk
rock overlaid by black loam. Small
hills at mouth of valley.

White chalk.

Limestone, impure, interbedded in chalk.
(For statistics of the material, specific
gravity, absorption &c. see pages 3790-3
and 3825-9.

Geological Notes

Frasers Gold Field

98

Uber

Geological Notes

Etc. etc. etc.

[illegible]

21.

[illegible] rock, horizontal bed of [illegible].

Cream red & green [illegible] (B)

(1)

Feb. 21st 1875.

His Excellency K. Kaeo,
Kaituku, Kuwaiu.

You have also represented in your
favor of the 28th of [illegible] that the
[illegible] may continue
[illegible] as Runners and
Clerk. As your assistants however are
employed in their Stores in Cook after
their departure, and suppose that the pres-
ent [illegible] continue, unless you have
special orders to the contrary, I beg to
recommend that they be required to [illegible]
and will state briefly some of the
duties which may possibly not
occurred to you.

[illegible]

[illegible]

Geological Map

Illustrative of Arabia

			Dy
[illegible]	I 9[illegible] d	[illegible]	[illegible]
[illegible]	M[illegible] r	[illegible]	[illegible]
2 cho. fm (?)	M 147 [illegible]	[illegible]	[illegible]
2-3 cho. fm (?)	I 961 c	[illegible]	[illegible]
(?)	C 31[illegible]	[illegible]	[illegible]
[illegible], river bank,	M 1473 m	[illegible]	[illegible]
+ about 12 cho.	M[illegible] l	[illegible]	[illegible]
[illegible] — 10 cho.	I[illegible]	[illegible]	[illegible]
[illegible]	M[illegible]	[illegible]	[illegible]
[illegible] Tobetuno, [illegible]	M 14[illegible]	[illegible]	[illegible]
[illegible]	M[illegible]	[illegible]	[illegible]
[illegible]	M 1466 g	[illegible]	[illegible]
„ [illegible]	S 952 c	[illegible]	[illegible]
[illegible]	C 310	[illegible] 25 [illegible]	[illegible]
[illegible]	I 957 n	[illegible]	[illegible]
[illegible] M 14[illegible]	S 951 a	[illegible]	[illegible]
[illegible]	M[illegible]	[illegible]	[illegible]
[illegible] (valley)	M 1314 l	—	—
[illegible]	C 308	[illegible]	[illegible]
[illegible]	M 1[illegible]	[illegible]	[illegible]
[illegible]	M[illegible] p	[illegible]	[illegible]

24.

			23° E
	M 220	N 47°	36° E
"			
			12° E
		N. S.	
"		N 27	
"	M 230 a	N 17° W	2° E
Perkiomen?	S 64 ½ E	N 32° W	25° E
		N 26° W	16° E.
Perkiomen, south of	M 234		
Neshâya	M 236 c	N 5° W	2° E
		N 80 W	58° W.
Schuylkill		N 47° W	15° E
Schuylkill	M 236 g	N 10 W	28° W
		N 40° E	14° E.
		N 60° W	40°
		N. E.	45° E
	M 243 k	N 10 W	32° E.
	M 245 k	N 40 E	24° W.

		Strike	Dip
Kobiwa near Sotoneyshiki		N 70° W N 8° E	62° S. 18½° E
" "		N 10° W	21° W.
" "		N 35° E	57° N.W.
" "		N 55° E	38° W
" "		N 60° E	45° N.W.
Ara-gawa-wara	I 733 m	N 50° W	54° S.W.
Nishi-no-sto-gawa	I 732 m	N 36° E	18° S.
Myauni-zawa-no-Sawa	M 1347 g	N 10° W	
" x Shigari above (g)	M 1308 f	N 80° W	
" x half a riabove (f)	M 1307 e	N 30° E	
" ± 2-3 ch above (e)	M 1306 d	N 20° E	
[illegible]	M 1261 c	N 15° E	
[illegible]	M 1246 b	N.S.	
[illegible]	M 1245 a	N 5° W	
" "	M 1271 x	N 15° W	23° N.E.
[illegible]	M 1241	N 8° E	17° E.
	S 730 a	——	——
"	S 731-32	——	——
"	S 748-50	——	——
	S 745-47	——	——
Kiritōge	S 751	——	——
W. of town	S 743	N 80° W	——

20.

Tuch

Hard dock blau Wollentuch

"

"

"

"

Grün olivfarb tuch.

Lohrighfarbe? Ohale.

Olivenfarb. Tuch

"

"

"

"

"

Loden grün Tuch.

Volendie Tuch?

Tafft Tuch

Taffet "

Taffetas

Tuch Tuchfabrik

Tuch? Ja

104

105

901

Kaitaia Saw Mills 15 Dec 1875.

M. S. Lewis Esq.

Sir,

In compliance with your request
of the 23rd of last month I wrote to
the Kaitaia to stock of the Steamer
proposed to keep the discovered dwelling
recommended the sale if a reasonable price
could be obtained. Some days after the
the Kaitaia arrived that I decided
to sell, because the Mill had always
been unprofitable. I explained
to you that I was desirous
to be relieved from the Mill
as soon as possible
Steamer, and I again urged the sale.
Captain [illegible] the Kaitaia
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]

twelve thousand two hundred and [illegible]
four 15/100 Mexican dollars $12234 15/100
in case the Judge should deem [illegible]
there for it the Kaitakushi would [illegible]
hand one months notice in advance
in order to avoid certain inconvenience
[illegible]

I have the honor to be,

Sir

Your [illegible]

Matinicus [illegible]	[illegible]	[illegible]	[illegible]
Southwest	[illegible]	[illegible]	7° N.W.
"	[illegible]	[illegible]	67° E.
"	[illegible]	[illegible]	7½° W.
"	[illegible]	[illegible]	3½° W.
"	[illegible]	[illegible]	12° S.W.
"	[illegible]	[illegible]	37° S.W.
"	[illegible]	[illegible]	3° S.W.
2 Leagues west of Seguin	[illegible]	[illegible]	7° W.
[illegible]	[illegible]	[illegible]	24° S.W.
[illegible]	[illegible]	———	———
4 Leagues west of Seguin	[illegible]	[illegible]	35° W.
" " "	[illegible]	N28° W	37° S.W.
6 Leagues W. of Matinicus	[illegible]	N30° W	45° W.
" " "	[illegible]	N16° W	37° S.W.
6 Leagues W. of Matinicus	M12 31 x	N60° E	90°
"	"	N70° E	90°
"	"	N. S.	90°
"	"	N5° E	64° E.
"	"	N5° E	64° E.
"	"	E & W.	8½ & 8½ S.
[illegible]	M12 31 y	N20° W	7° S.W.

Name	Kol: Buch	Stücke	Diff.
Lucie Hedwig	M 1241 y	N 0° W	55° SW.
		N 70° W	68° SW.
Hedwig	M 1245 z	N 8° W	4° E
Akiegami Prinz Alexander	M 1211 a	N 16° W	41° W
" Meer Prinzessin	M 1247 β	N 26° W	55° NW.
" " Prinzessin	M 1251 c	N 13° W	63° N.
" "	M 1287 96	N 80° W	80° S.

21
Bock

Place	[illegible]	[illegible]	Dip.
[illegible]	[illegible]	[illegible]	20°S.E.
	[illegible]	N 19°E	15°S.E.
"	[illegible]	N [illegible]	12½°S.E.
"	[illegible]	[illegible]	12°S.E.?
" [illegible]	[illegible]	[illegible]	4°S.E.
" [illegible]	[illegible]	[illegible]	15°S.W.
	[illegible]	[illegible]	[illegible]
[illegible]		[illegible]	[illegible]
" [illegible] C 234 [illegible]		—	—
" [illegible] C 23[illegible]		N [illegible]	[illegible]
" [illegible] C 22[illegible]		[illegible]	[illegible]
" [illegible] 27 [illegible]		N [illegible]	13°S.[illegible]
" 2 [illegible] " C 22[illegible]		N [illegible]	[illegible]
" [illegible] 475 m C 22[illegible] b		N 25°E	[illegible]
" [illegible] C 22[illegible] a		N 41°E	[illegible]
" 2nd [illegible] (a) C 235 [illegible]		N [illegible]	10°S.E.
" 2nd " (c) C 235 g		N 35°E	[illegible]
" " "		N 41°E	62°S.
" 4 [illegible] (g) C 234 fe		N 8°W	12°S.W.?
" [illegible] C 234 E		N 6°W	[illegible]
" [illegible] C 23[illegible] d		N 5°E	[illegible]
[illegible]		[illegible]	[illegible]

Ort	Streich	Dip
	0120 j	N 80° W	4° S.
		N 47½° W	7° S.W.
	8367 b 0117 k	N 76° W	7½° S.W.
		N 70° W	5° S.
		N 24° E	5° S.
		N 51° E	4½° S.
		N 37° E	7° S.
		N 12½° W	3½° S.W.
		N 65° E	
		E W.	
		N 30° E	
		N 68° E	
		N 52° E	
		N 40° E	
		N 70° E	
		N 30° E	
		N 11° E	
		N 38° E	
		N 43° E	
		N 35° E	
		N 45° E	

34.

Rock.

[illegible]		[illegible]	[illegible]	[illegible]
[illegible]		[illegible]	[illegible]	[illegible]
		[illegible]	[illegible]	[illegible]
[illegible]		[illegible]	[illegible]	[illegible]
	"	[illegible]	[illegible]	[illegible]
"	"	[illegible]	[illegible]	[illegible]
"	"	[illegible]	[illegible]	[illegible]
"	"	[illegible]	[illegible]	[illegible]
"	"	[illegible]	[illegible]	[illegible]
"	"	[illegible]	[illegible]	[illegible]
"	"	[illegible]	[illegible]	[illegible]
"	"	[illegible]	[illegible]	[illegible]
"	"	[illegible] O 221 b	[illegible]	[illegible]
"		O 21 a	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
"	"	J 2[illegible] 9 n 1 [illegible]	[illegible]	[illegible]
"	"	J [illegible] 1 1 9 [illegible]	[illegible]	[illegible]
"	"	J 267 [illegible]	[illegible]	[illegible]
"	"	J [illegible]	[illegible]	11° [illegible]
"	"	J 288 f 1885-6	——	——
"	"	J 293 l 1884 m	N 40° [illegible]	11° 5.6
"	"	1884 l	E [illegible]	6 [illegible] S?
"	[illegible]	1999 [illegible]	——	——

35
Rock

Clay rock! (no specimen)
" " ?
Clay rock
" "
" "
Light purple gray sandstone, fine grained yellow.
Light green sandstone,
" " " medium yellowish red.
" " soft, with impressions
Blue rock? no specimen
"
"
Light gray sandstone, fine soft micaceous,
Dark olive green sandstone, hard crystalline
Rock in clay rock, with limestone concretions
" Gray " " " "
Blue "
Dark green gray sandstone, hard with limestone
Rock strips with "
Light green sandy clay rock
"
Limestone, Chemical or lime, shales,

[illegible]	[illegible]	[illegible]	[illegible]
"	2307 h. [illegible]	[illegible]	[illegible]
"	1287 j. [illegible]	[illegible]	[illegible]
"	D 2479 g 1872 [illegible]	[illegible]	[illegible]
"	D 344 i 1871 [illegible]	[illegible]	[illegible]
"	D 142 e [illegible]	[illegible]	[illegible]
"	D 842 e 1879 b	[illegible]	[illegible]
"	D 839 g 18[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
" Scho " "	0101 [illegible]	[illegible]	[illegible]
" same vicinity	0101 [illegible]	[illegible]	[illegible]
" " "	[illegible]	[illegible]	[illegible]
" " "	[illegible]	[illegible]	[illegible]
" " "	[illegible]	[illegible]	[illegible]
" " "	[illegible]	[illegible]	[illegible]

36.

Rock.

Purple gray clay rock, with spheroidal structure.

" " sandstone, fine,

Pink gray sandstone, with spheroidal structure.

Pink gray sandstone, coarse, with concretions of lime and

Pink gray sandy clay rock, weathers red.

Pink " " sandstone, dark purple when

Dark purple gray sandstone, with concretions of lime-

Clay rock ? (no specimen)

Light colored white sandy clay rock

Clay rock, (no specimen)

Clay rock

Pink gray sandstone, dark when weathering

" " "

129

village	[illegible]	[illegible]	[illegible]
just beyond	M15[illegible]	——	——
[illegible]	M15[illegible]	[illegible]	35° W
[illegible]	M15[illegible]	[illegible]	35° W
[illegible]	M1518 h	——	——
[illegible]	M151[illegible]	[illegible]	[illegible]
[illegible]	M1520 j	N. [illegible]	12° W
± 2½ mi from Shimmoroni	M1521 k	[illegible]	5-10° W
	M1522 l	——	5-10° W
mi from Ho[illegible]beti	M1524 n	N 85 E	16° N.W?
	M1525 o	N [illegible]	± 5° W
5 mi before Shiraoi	M1527 q	Horizontal?	
[illegible]	M1528 r	N 15 [illegible]	[illegible]
[illegible]	M1530 44	——	——
	M1745 l	——	± 2-5° W
[illegible]	M1743 k	——	± 2-5° W
	M1743 j	——	gentle E
	M1743 i	——	5-10° W
	M1742 h	N ± 10° W	± 55 W?

37

Rock

Volcanic Conglomerate

Dark blue crystalline Volcanic rock
Volcanic rock & laminated
green tufa &c.
Volcanic Conglomerate.

[illegible]

38

Rock

Pebble rock (near Cape Town)

Hard Sandstone & conglomerate, coarse and in-
terstratified with Shale

Hard brown Sandstone in beds 3 to 6 inch thick
in alternating beds 1 to 2 ft thick under 2
to 3 thick

Hard Sandstone Laminated & fissured

Brown Sandstone in beds 10 ft thick

in alternating beds, Last formed
Rock, Weathering red 1½ – 5 ft thick

37.

Rock

Shaly limestone, 15 ft thick in shale

Shale several beds of fish & mollusk

Shales

Sandstone, upper?

Sandstone & shales

Shale

Sandstone

Shale

Sandstone, light yellow shale

Limestone, 150 to 200 ft.

Sandstone

Shale, yellow shale soft, conglomerate

Shale with beds of limestone containing

Limestone and other fossils.

Gray sandstone

Shale, coarse.

Shale covered by iron sandstone.

Shale

[illegible]	[illegible]	[illegible]	[illegible]
[illegible] from [illegible]	[illegible]	[illegible]	[illegible]
[illegible] ch. from Sawani	M1535 f	N 5° W	[illegible]
[illegible] from "	M1536 g	[illegible]	[illegible]
[illegible] (white rocks)	M16[illegible]	N 40° W	[illegible]
[illegible] pool " " [illegible]	M1590 j	N 5° E	[illegible]
[illegible] from Sawani	M1593 m	N 55° W	[illegible]
[illegible] of mountain [illegible]	M1596	——	[illegible]
[illegible] rocks from coast (on coast)	M1597	[illegible]	35° E
Mwadzami	M1602 a	——	[illegible]
+ [illegible] before Sawani	M1604 b	N 40° W	[illegible]
+ 1 m. + 32 chs. before "	M1605 c	N 50° W	35° [illegible]
Half a m. from [illegible]	M1606 d	N 20° W	[illegible]
[illegible] from coast	M1617 g	N 50° W	[illegible]
[illegible]	M16[illegible]	N 2° E	[illegible]
" [illegible]	M1607 [illegible]	N 60° W	[illegible]
[illegible]	[illegible]	N 86° [illegible]	[illegible]
[illegible] "	M1611	[illegible]	50° [illegible]
" "	[illegible]	N [illegible]	[illegible]
[illegible]	M1[illegible]	N 65° W	[illegible]
" rocky point		[illegible]	5° NE
" shore		[illegible]	[illegible]
[illegible] river	[illegible]	N 5° E	[illegible]

T38

Rock.

Volcanic? or metamorphic rock.

Brown sandstone underlaid by metamorphic rock

Metam. rock.

Mica Schist

Quartzite (laminated)

Metamorphic rock – (or bedded ...

... Mica Schist & ... quartzite.

... Mica Quartzite & slate.

... morphic rocks underlaid by granitoid ...

... rock.

Red rock

... which bears ... & fossiliferous ...

... Coal.

... Mica Schist.

Coal measure rock

... See also Limestone Mines

... quartzose Sandstone from

... metamorphic rock.

Coal Mines quartzite & Graphite ; bounded between Stratford & Gosford

" " " " "

Coal? " " " &c.

Place	Var. Book	Stika	Dip.
Orkomeman?	M 1621 c	N 5° W	45° N.
"	"	N 35° E.	65° N.
" Sperschlagt	M 1622 d	N 5° E	30° N.
Inside of Bergen Bite.	M 1623 e	N 30° W	61° W
Mouth of Bergen	M 1631 g	N 10° W	70° W
" "	M 1654 t		
" " Nearest.	M 1651 s	N 30° W	75° E
Low land NW, NNW and	M 1651 r	N 20° W	80° W.
3 to 5 ft from S.	M 1650 q	N 25° W	77° E
200 ft " (q)	M 1641 h	N 40° W	67° 30 W
2 mi from Store	M 1647 n	+ 40° W	+ 57½ W.
Tree	M 1645 m	Navigate	

41.

Rock

Blue quartzite
Siliceous rock with pebbles
Blue argillite
Shale
Green marble with veins with ± 30 to 60 ft of
green stone not traced.

Limestone.

Dark blue metamorphic limestone with
Metamorphic sandstones, slate, dark blue
Marble, gray, black, white, yellow
Limestone, impure not traced
Clay rock with thin seams of lignite

3107

Shiba, 21 Dec. 1875.

His Excellency K. Kuroda,
Kaitakuchokwan.

Sir:

In your assent the other day to the printing of the maps and reports nothing was said as to the number of copies that should be printed. Hitherto the number of copies of the reports has been limited to the two hundred needed for the copies of Gen. Capron's volume of reports that was printed last Spring; and it still remains to be decided how many copies of later reports (such as that on the Miike coal field) shall be printed. Two hundred seems very few compared with the number of readers of English who feel more or less interest in the doings of the Kaitakushi and in Yesso and in such geological reports generally; and perhaps there is even a still larger number of Japanese who either now or within a few years to come would like to have the shortest, most reading whatever

reports have been made upon the resources or
condition of Hokkaido. In printing the maps
so far no account has been taken of the
desirableness of illustrating by means of the
translation of the reports in Japanese; but
additional copies for that purpose can
still be obtained of the lithographed Geo-
logical maps, and at a cost which is scarcely
a tenth of the cost of the first two hundred.
I would therefore recommend that additional
copies of them be ordered at once, enough for
a Japanese edition of the reports, and that
the whole number of copies of the Makumbets
and other later maps that may be printed
for the Kaitakushi shall be at least four
hundred (500). Of the Makumbets map,
for example, the first two hundred edi-
tion cost one hundred yen, but each additional
hundred will cost only five yen. If however,
I should be unable to get from the Kaitakushi any
desired additional copies could only be obtained at
the cost of a new engraving.

I have the honor to be,

Sir,

Your Obedient Servant,

Benj. Smith Lyman.

Kiel, 2. Dec. 65.

Lieber Herr Doctor!

[illegible]

Ihr
Benj. Smith Lyman.

Constitution of the Japan Geological Society.

I.
Name.

The name of the society shall be the Japan Geological Society.

II.
Object.

1. The object of the society shall be the advancement of geology and its kindred sciences by mutual aid in studying them, with the help especially of collections of specimens, of a library and of meetings for the reading of papers and for discussion, and by means of written, original researches and publishing papers or books.

2. The society shall not as such undertake the support of political or religious.

Considerations
of the
Future Prospects of Trade.

I.
Money.

The means of the world shall be the future

II.
Wages.

1. The wages of labour shall be the reward
2. [illegible] shall be distributed
3. [illegible] shall be the [illegible]
4. [illegible] of the [illegible] shall [illegible]
5. The wages of labour shall be [illegible]

III.

Officers.

1. The officers of the society shall be: a president, a vice president, a recording secretary, a corresponding secretary, a treasurer, a curator and a librarian.

2. The officers shall be elected by a majority of votes at the last regular meeting in December; and the president, vice president and the secretaries shall not hold the same office two years in succession. In case of a vacancy in any office it may be temporarily filled by appointment from the president but he shall give notice of the vacancy at the next regular meeting of the society and a new election shall take place at the regular meeting next following the notice.

3. The president's duties shall be: to be the official representative of the society before the world; to preside at the meetings of the society; to appoint the chairman of special committees, unless the society by a three fourths majority vote to the contrary; and to call special meetings of the society either of his own motion or on the written request of [illegible]

III.

Officers.

1. The officers of the Society shall be: a President, a Vice-President, a Recording Secretary, a Corresponding Secretary, a Treasurer, a Curator and a Librarian.

2. The officers shall be elected by a majority vote of the last regular meeting in [illegible]; viz: a President, Vice-President and Recording Secretary shall not hold office for more than two years in succession. The Curator may hold office for three years in succession. The Librarian shall hold office for one year. If any of the officers shall be absent from the President for the next regular meeting after election shall take place at the regular meeting next following the notice.

3. The President shall [illegible] of the Society [illegible] the Society; [illegible] of the Society; [illegible] of the Society; [illegible] of

3

4. In the absence of the president from a meeting perform his duties
the vice president shall preside. If he also be absent, one of the other officers (taking precedence in the order already given) or, in the absence of them all, any member may call the meeting to order & preside during the meeting may be elected by the majority of those present.

5. The recording secretary shall keep a record of the proceedings of the Society. In his absence from any meeting a temporary secretary may be appointed by the presiding officer.

6. The corresponding secretary shall carry on the correspondence of the Society, notify members of their election, distribute its publications, and the Circular, and shall keep correct copies of all letters written on the business of the Society.

7. The Treasurer shall collect and receive all moneys belonging to the Society or entrusted to it; and shall disburse or apply the same according to the Society's orders & appropriations. He shall sign with the presiding officer and recording secretary, & shall give bond and security

6

4

& the society in such amount as the society may from time to time direct. He shall keep a clear and detailed account of all receipts and outlays

8. The curator shall have charge of the society's collection of specimens under its rules; and shall report all additions & losses from time to the regular meetings of the society.

9. The librarian shall have charge of all books belonging to the society under its rules; and shall keep a correct list of them and shall report all additions to the library or losses from it at the regular meetings of the society.

IV.

Committees.

1. Both Standing and Special Committees may be appointed from time to time for the management of business.

2. Standing committees shall consist of [illegible] than three nor more than five members; shall be elected by a majority of votes cast at the annual meeting, and shall [illegible] the annual election of officers

with special reference to different branches of science or to the society's finance, publications, library, collections, meetings or other subjects, according as the Society may decide from time to time.

2. Special committees of three shall be appointed to consider and report at the next regular meeting on the desirability of any plan requiring the outlay of the society's money or within its reputation (such as proposed publication of a paper or book); and the special committees may be appointed from time to time as the Society shall judge best.

3. The presiding officer of the meeting first after the appointment of a special committee shall name the chairman of the committee, that member shall nominate a second, and the second a third, and so on until the required number be filled; but the meeting may by a majority of votes already ordered the appointment to be filled in such manner.

1. All candidates for membership shall be nominated in writing by at least two members and the nomination read out at the regular meetings for at least one month before their election, and the voting shall be secret, and three fourths of the votes must be affirmative for an election.

2. Each member shall sign the constitution and by laws; and shall yearly contribute his pro rata towards the Society. In case of neglecting to do so for one year after his election or for two years at any other time he shall be dropped from the list of members, provided the treasurer shall have reminded him in writing of the neglect at least twice and not less than three months before the expiration.

3. Any member who is convicted of any crime or any immoral conduct may be expelled from membership by a majority of the members present at any regular meeting.

6

5. Any member may be expelled from the society for any flagrant act of dishonesty or wilful violation of its laws or for unbecoming conduct. But before a motion to expel must be made at a regular meeting of the society, and be accompanied by an affidavit of the fault, signed by at least [illegible] members; the corresponding secretary shall notify the member that a proposition to expel him will be considered at the next regular meeting of the society, and the vote for expulsion at that meeting, unless he has been allowed to defend himself, must be at least three fourths of the members present.

VI.

Meetings.

1. The society shall meet regularly [illegible] at the [illegible] of each month.

2. The members will make a petition for [illegible]

3. Special meetings may be called by the president at other times, and must be called

VI.

by him, if three or more members in writing request him & do so.

4. If the business of any meeting cannot conveniently be finished in one session, the same meeting may be adjourned from time to time.

5. The meetings shall as a rule be held at Yelo; but the special meetings may be called elsewhere; and regular meetings may also if so agreed upon per each one by a majority of the previous regular meeting.

6. Three or more members living in any community at any place in which a Yelo local special or regular meeting goes on or a branch Yelo society with a permanent organization and by laws of its own under the by-laws; but any projects involving the finances of the society at large or affecting its reputation or the publication of papers, and the election of members to be recommended by the board of directors shall be decided upon in the annual meeting of the main society, [illegible] and each branch shall send to the [illegible]

7. The discussions and business of any meeting shall be managed according to the usual parliamentary rules. On appeal a meeting may by a vote of two thirds of those present override the presiding officer's decision on a point of order.

VII

~~Constitution and by-laws~~

1. The Constitution of the society can be altered by a three fourths vote of the members present at a regular meeting of the society if the proposed alteration shall have been announced at the previous regular meeting.

2. Regulations not inconsistent with this Constitution may be passed by a majority vote at any regular meeting, and if passed and promulgated at this meeting will be valid by law. They may also be repealed or amended by majority vote at any following meeting. [illegible] at which it shall be announced at the meeting next preceding, only by a two thirds vote.

VII

Shiba, 10 Jan. 1876.

Gen. K. S. Otori,

No. Sakuragawa Cho.

My dear General.

Yesterday two hours after you left me the Minister of Finance had been shown some articles, my father had sold in the third public market. You will therefore no doubt pardon my having kept you waiting so in regard to the proposed engagement in the Naimusho, but sought not to leave you in doubt any longer than is necessary.

Before settling the matter I would like to be informed more precisely on two or three points.

1. What is the amount of the allowance for house rent, and does it extend through the whole year or only through my stay in Yedo? I am not willing to break up everything every time I leave town, and hunt up a new house every time I come back, and I think it would be poor economy to have my time so taken up.

2. What is the allowance for travelling expenses both in going and coming, and also during the time I am travelling on [illegible]?

3. To what am I to be entitled in [illegible]

& report?

4. Shall I be brought directly or indirectly into official relations with any the foreigners; and if so, in what relative position? To tell the truth, I know of hardly a single foreigner in Japan to whom I should like to become subordinate.

5. Don't you think you could possibly get the offer of salary increased by one or two hundred Dollars a month? I do not wish to appear too greedy.

I will try to see you in a day or two and at once answer in detail your letter and possibly in a day or two after that may come to mind. Many [illegible] I am,

Very sincerely yours.

Yours truly
Eug. Smith Esquire

Lima, 18 Jan. 1876.

Gen. R. P. Hart,

No 2 Barranco Chs.

Dear Sir:

I have to thank you for your favor of the [illegible] inst. duly received.

[illegible] my financial [illegible] I [illegible] how much, if anything, [illegible] allowed, & made up for the [illegible] in regard to the allowance for [illegible] & have written, & shall [illegible] mentioned ($225 and $721) to not [illegible], and $111 will be [illegible] a day.

[illegible] is be made at all, there are so many [illegible] to make, that are matters [illegible] in detail to you, especially if you should [illegible] for a personal interview as soon as you [illegible] you have a mind, in order to see if we can [illegible] any agreement.

Yours truly,

[illegible] Smith Ingram.

Kaibab Lumber Co.

[illegible]

[illegible]

You that the Mahambers coal [illegible]
four feet thick (1911 or 1910) had not been actually
and measured by you or your [illegible]
yesterday I came across a [illegible]
by Mr. Nazaro (0320) that was made
by him and seems clear to me.
I bed and shows it to be only about
feet thick in all including a foot or
of black clay. He evidently supposed that
had it was the same bed and took samples
of it accordingly as well as of some coal
a hundred. Have you any reason to suppose
that the coal he measured was not the same
the mine? I know of no other coal mine

Yours truly,

[illegible]

Jerusalem Huba, 30 Jan.

Dear Mr. Monroe:

With [illegible]
Keyes and send you
[illegible] I do [illegible]
you for it and forgive
[illegible] and I say that
I shall be happy to
[illegible] when
you [illegible] I remain [illegible]
[illegible] you suggest.
[illegible]

[illegible] I say, and it seems
a little doubtful whether
I could be with Stewart
the Kaiserbahi and the
Smith's office within
[illegible] but in case
I should be printed after
your departure I shall
be happy to do my best
in carefully correcting
the proofs for you.

Yours very truly,

[illegible] Smith Keyes.

No 48.

Shiba, 2 Feb 187[illegible].

Sir Ernest M. Satow.
Kanagawa.

Sir,

I have received your letter
of the 29th of last month and
carefully considered it and
Geo gold fields and the arrangements
we spoke of there. I am sorry
circumstances
[illegible] and
[illegible] for me to
[illegible]
[illegible]
be carried out. I regret
[illegible]
be required. It will fill out about eighty
printed pages, so that the expense will not
be very great. There is also from his
hand a table of brief geological notes
that would fill perhaps thirty more
pages and that it would likewise be very
desirable to print along with the rest
making perhaps eighty pages in all.
He is intending to sail for America
the 12th of this month; and
[illegible]
[illegible]
[illegible]

Rt. Honble Lord Hill

Have the Honor to be

Sir,

Your most obedient Servant

Benj. Brodie Leigh

No. 62.

[illegible], [illegible] 18[illegible]

His Excellency H. [illegible],
[illegible].

Sir,

I have the pleasure of sending [illegible] Mr. Blanford's report [illegible] Meteorological observations in the [illegible] parts of [illegible] Mr. [illegible] by [illegible] [illegible] his geological notes, and to urge that both be published by the Government.

I have the honor to be,

Sir,

Your most obedient [illegible],

(Sgd.) [illegible].

Reading 22d. 1811.

My dear Mr. Thompson

I send here with Mr. Munroe's paper & accompany it with a printed form of letter to be sent to the Presidents. And beg that the whole may be returned to me at office at once, if not actually wanted sooner, for we are a few lines in it here and there that I hope to induce Mr. Munroe to alter a little before printing.

Yours very truly,

Benj. Franklin Bache

[illegible] 2 Feb. 18[illegible].

Dear Mr. [illegible]:

I beg of [illegible] chance [illegible] to [illegible] through, and I beg to [illegible] [illegible]. It [illegible] published by [illegible], and I have already written to my [illegible] [illegible] concerning [illegible] doubt that the printing of both will be ordered.

There are still in the manuscript two or three omissions of words that you intended to add but overlooked when [illegible] that day.

I [illegible] "metamorphic life" of [illegible] the sections were [illegible] lying upon the dark [illegible], [illegible] the [illegible] as the description answers to the [illegible] what I have taken it as [illegible] [illegible]

[illegible]

surface? — In the case of every one of the numerous metallic ore veins that I saw in Peru the country rock belonged to the old volcanic rocks. Are you quite positive that the Mt Diagnia veins are in the old quartzites? — All of the many cases of columnar volcanic rock that I saw in Peru are in my opinion not basalt but trachytic porphyry. Are you perfectly sure that what you class as basalt is not also trachytic porphyry? — You express a very positive opinion that the Forbidden range is at least as recent as the Tertiary, and it may possibly be as [illegible] I must say that the amount of disturbance the rocks have undergone in these regions is very remarkable for such a recent formation. I have thought that it might be as old as the mioceneal but I doubt its [illegible] determined by superposition and [illegible] with the recent [illegible]. — You are not in a report quite so [illegible] the [illegible] unconformability of [illegible] and the underlying rock, [illegible] but [illegible] the gravity and [illegible]

within a small space. To tell the truth, I think very much that such a remarkable magnetic & electric region elsewhere could in some way be plausibly explained away, perhaps by specific hypothesis. If the effects are not perfectly satisfactory, the discrepancy is comparatively small, & will of course be shortly ascertained. — You are continually finding fossil remains there, whereas although there are probably just as great quantities of solid volcanic rock beneath, yet from marine deposits, I have not met with a single fossil, & remarkably little. Both may partly be on account of your having been much less for on the Andes between 2 & 3 & 4 thousand feet, but as both must in part be referred to a real, I trust you have by this time been convinced beyond a doubt that the appearances could not be explained in any such manner as you first were disposed to think. I should be glad to hear what you & Lyell say to the fossil mammalia. I do not see how it is possible to doubt of their being found [illegible]

of points where there were no Forbidden Rocks, but
were you could point out here and there
with safety) patches of rock or gravel which
valley somewhere else, in which case
presence of the Forbidden Rocks was shown
you had only to find out by experiment
which was the gold and which the worthless
rock would of course be, like the finding
of a needle in a bundle of hay, the result
of diligent search of the Forbidden
rocks (which from their abundance
some of all the metals) in the east coast
of one point a claim of gold was said to
be found there apparently there are only
Forbidden rocks and no Forbidden Rocks
of nature of this rock; but the advantage
previous examination in these rocks
would point out the more frequent finding
of real ones. The magnetic needle
was found in the Forbidden rocks
often found near them in the
Hill of the Forbidden Rock

5

I hope you will not think me outrageously selfish and unjust if I feel desirous that your published reports in the survey should conform to the views I have already arrived at and especially to those expressed in my own report so far as may be possible without actually doing violence to your convictions or detracting any too much from your legitimate claims to originality. You can readily imagine that the report appearing under your own name [illegible] be held [illegible] not [illegible] lessening them in [illegible] rendering their publication; and although I could [illegible] [illegible] particulars [illegible] [illegible] [illegible] [illegible] [illegible] if we could arrive privately at some agreement on disputed points before exhibiting our discordance to the world.

Again therefore that our several reports [illegible] be brought perhaps to a little greater degree of harmony, I remain

Very truly yours,

[illegible]

P.S. [illegible]

Phila. Feb. 1876.

Dear Mr. Monroe:

I sent you a letter some days before yesterday telling you that the Centennial had already performed one valuable service in that your report and bills could probably be printed at once; and suggesting that small changes in the report to save the necessity of my attending to some Commissioners proxy vote. My time before your departure is so short, it will be difficult to print in time for you to correct the proofs unless it be commenced immediately; and I fear from your not yet answering my letter that it may not have been received. Will you please inform me by the return mail

[illegible]

[illegible], [illegible]; 9 Feb. 876.

Dear Mr. Monroe;

Here are four
galleyed proofs [unpaginated] from Mr. [illegible]. He
says "the amount of tabular work is so
heavy that I despair of getting it done
[illegible] will depend upon the dispatch
[illegible] the corrections [illegible] made."

[illegible] my letter of transmission
your report to Mr. [illegible] would
[illegible] be put in at the beginning
of the report. If [illegible] can let
have the [illegible]
single page [illegible]
[illegible]
[illegible]

[illegible] [illegible]

Kobe, 2 Feb, 1876.

His Excellency K. Kuroda,
Kaitakushi-cho.

Sir:

I have the pleasure of sending you herewith an interesting & valuable report from the Mineral & Geological Surveyor in the field: and the parts of Southern Yezo accompanied by a useful and convenient table of his geological notes; and beg to urge that both be published by the Kaitakushi.

I have the honor to be,
Sir,
Your most obedient servant,
Benj. Smith Lyman.

Jovenia, Jamaica, Cuba,
10 Feb. 1876.

Dear Mr. Monroe:

Herewith you receive
yellow & green Land &
Title Deeds just received.

I send the letter from
Messrs Aird & Whitham
Stone Fines.

Yours very truly,
Wm. Smith Crosman.

Jamaica, Nov 1861

Mr. Howell,
Transcript Office.

Dear Sir:

[illegible]

(Instead of Article 8.)

The said Engineer shall have entire charge of all work entrusted to him and shall alone decide the plans for carrying out that work; but whenever those plans involve outlay of money he shall, if required, submit them for approval to the government of Liberia before they are carried out. If the government in order to economize the said Engineer's time or facilitate his work after the plans shall provide him with assistants either in surveying, geological work, writing, accounts keeping or otherwise, such assistants shall be, as far as their work is concerned, wholly under the Engineer's control, but the government shall have the right to relieve them from service at his option, conformably to previous agreement. All orders from the government shall be communicated to the Engineer through the Secretary of State, and all correspondence on the business of the survey between such assistants or any one of them on the one hand and any foreign post office authorities on the other shall be addressed to the said Engineer and

him transmitted in substance, in copy
or in the original, as he may think
fit, or in the case of [illegible]
[illegible], [illegible],
of the said petition. All [illegible] comm-
[illegible] [illegible] [illegible] Government and
the said Bureau shall [illegible] [illegible]
[illegible] [illegible] by the Commissioner
of the said Bureau [illegible] [illegible] by
him to the [illegible] said Board
[illegible] [illegible] [illegible] complaint
to be made against the said Engineer
may be withheld by [illegible] [illegible]
[illegible] [illegible] direct to the commis-
sioners said Board; but shall not be
[illegible] [illegible] [illegible] said Engineer
without his having been allowed full
opportunity of preferring [illegible].
like manner he may address any com-
munication he may [illegible] against the [illegible]
[illegible] of the said Board direct to the
[illegible] under whose [illegible] [illegible]
of the said Board [illegible] [illegible]

The said Agents may also address
[illegible] to the Secretary of the said Board
of the Interior Department aforesaid, in behalf
[illegible] which [illegible] to the Commissioner
either of the said Board; or [illegible]
the Commissioner of the said Board
will a request to be forwarded to the
said Secretary they shall be so
forwarded without suppression or
[illegible].

[illegible] Clerk above
[illegible] in account herein or
[illegible] be liable in any case
[illegible] or costs thereof, to [illegible]
[illegible] thereby, nor for [illegible]
[illegible] by them [illegible]
[illegible] from being paid over to
the [illegible] until [illegible]
[illegible] in the Court [illegible]
[illegible] to [illegible]

Ref. to your Reply to mine dated the 29th ult. would wish to inform you that we are not in the least interested in any way whatever in any such enterprise.

Jarvis, Seiner, Hiba, 10th Feb. 1865.

Rev. H. L. Hori,

No. 2 Tokiwagawa Cho.

My dear Sir:

I return you herewith the copy of instructions you left with me yesterday, and have marked on it in pencil the small changes I suggest. Really anything beyond what we talked of yesterday, but in a couple of respects which I do not like I would propose the substitution of "Bible" for "the Scriptures" about the matter of allowing my expenses suggested by what you said yesterday; but in any case of the sections might be useful if you prefer.

Very truly yours,
Jno. Smith Lyman.

Lewiston, Maine,
10 Feb. 1876.

Mr. Harvell
Indian Med. Office

Dear Sir.

The Kentucky
has just requested me to send
to her about 100 Drugs &
any manuscript respecting
Epidemic & Med. Skill in
Cholera & do so as soon
you are to pay me with
the Medicines sent as the
only pay I want. Smith. M.D.

Journin, Jackson, Shiba, Ks
Wash D.C.

John B. Pearce Esq.
Secty the Board of Commissioners
Second Geographical Survey of Kansas.

Dear Sir:

I have duly received the
many kind favors in receipt of the reports D, I and
M of your survey that you were so kind as
to send me on the 21st of December last from
the Board of Commissioners and Mr. J. P. Lesley
Director of Survey; and am reading them with
great interest and profit.

Very truly yours.
Benj Smith Lyman.

Fournin, Dawson, Shiba, Yeddo,
11 Feb. 1876.

Eakley B. Cope Esq.
No 200 South Fourth Street Philadelphia.

My dear Cope:

Enclosed please find the first of a bill of exchange in your favor as a member of the Centennial Committee of Pennsylvania for Thirty Dollars drawn in favor of W. K. Seymour & Co. & Bro. No 85 Pulling Slip, New York, being the amount of my subscription last November for the Centennial Fund. I might have sent it at that time & pocketing the receipt, but besides the uncertainty whether the plan would be carried out, I was expecting to return to America before this time.

My engagement here fell indeed came to an end in December, but I have been staying on to finish up some important maps and other work that are now nearly done. In December, however, another, both Department of the government here & the Emperor himself desiring me to stay, I could not refuse a request so urged and with which my own plans & interests appeared to

make a survey of the oil lands of this, the main island; and as the young men are very excellent fellows, and I am very anxious to see this training in our method of geological survey a little further, not to mention the interesting character of the survey, I proposed to prove agreeable official relations have subsisted between us for many years, the agreement is just getting closed. The government pulls four pitt coal and is selling many of its foreign servants at home. The discontented Tillers of the nation, apart from the former military class, have been clamouring for a war with Corea, and an expedition has finally been sent there, ostensibly for the protection of the government as well as the special protection of the Japanese residents in Corea. I would avoid, if possible, any begin drunkenness that even the most pernicious war is a poor expedient for filling up a treasury but filling empty; getting rid of discontented, from the point of view of the aforesaid rulers.

You will excuse my making this something more than a mere business letter, or to something in the way of social chat and let me have some news of yourself and of the public papers etc.

Yours truly,

Jōzenin, Zōjō Shiba, 11th [illegible]

Gen. H. L. Olcott,

No 2 Sakuragawa cho.

My dear Sir:

Before you present the draft of instructions & Memorials for approval I should like to make a little correction in my pencilled suggestions. I would prefer to accept the offer of payment of salary and have sent in Japanese currency (as was originally written, but would like to insert the words: "of not less marketable value than the gold or silver coin of weight and fineness equal to those which were legal in the year 1875." — I was not desirous of making any concession to the government (because the proposed salary seems quite too enough), but merely to insure myself against any possible depreciation in the currency in use; which, however, I trust the government will be wise enough to prevent. Still, you must pardon me if I doubt in case of [illegible] & foreigners, and in the course of many [illegible]

Journin, Seiman, Shiba, Yedo,
11 Feb. 1876.

Prof. Joseph Henry, Smithsonian Institution, Washington.

My dear Sir:

I have to acknowledge with many thanks the long delay in the mails your two favors of the 8th of last November and of the 11th of December.

I said that I shall not succeed in sending you my little collection of about 40 Birds by this Steamer, but I still entertain hopes to be able to get them off by the next, in a fortnight hence, and trust that it will be in ample time for the Exhibition. I would really wish you were worthy of a place there. Surely should not the Japanese have first exhibited & build over some Japanese houses in the Exhibition grounds; so that it is perfectly useless to send any of the models of houses &c. &c. &c. I will see if it is possible to find anything of interest enough in that line to send.

The Interior Department has sent me your favor, for which kindness I shall [illegible] and continue the training of [illegible] young man, and if [illegible] I can be of any [illegible] to you. It would give me great pleasure.

[illegible]

Geological Survey of Kentucky.

Report

of

Early Progress

of the Geological survey of 1875

with

comments on other matters.

By Benjamin Smith Lyman,

Chief Geologist and Mining Engineer.

Filed:

Published in the Courier-Journal,

1876.

Proof [illegible] page 5 [illegible]

~~[illegible]~~ — It has been discovered within the last few days that Mr. Munroe and his [illegible] a coal exposure very near the old mine upon the lower workable coal bed, an exposure that seems now quite possibly to be on the same bed. The thickness was only about a foot and a half of coal separated into two halves by about a foot and a half of [illegible], making about three feet in all; a thickness that would, with [illegible] popular [illegible] in [illegible], correspond perhaps well enough with the "reported thickness of three feet" [illegible]. As the exposure [illegible] was an undisturbed [illegible] gave the [illegible] thickness [illegible] [illegible] must be reckoned [illegible] part of the [illegible] coal of [illegible].

[illegible]

Denver, Denver, Colo, 14 Feb. 6[illegible]

Mr. Howell

Dear Mail Office

Denver

Iwarin, Saimon, Shiba, Yedo; 16 Feb. 78.

Rev. M. C. Hay,
Sapporo.

My dear Sir:

I was pleased to learn from Mr. Miller that you had studied Japanese in the Nisi Hongwanji and had succeeded this year in ~~reading~~ reading the Bible ~~and~~ ~~calculating~~ get to the extent of some two thousand words. I had already done something in the same way myself, and with a hope that by uniting our work it may be made more complete, for many years I have been collecting words for use of foreigners, and last year more particularly [illegible] when Mr. White gave me a list of Japanese words published some ten years ago with the Chinese character opposite the words, and I have employed a native scholar to copy it into a blank book, which he finished roughly some time ago. I have also begun to [illegible] in the Katakana order [illegible] I will write something about the [illegible] Mr. Brown is getting [illegible] Both of the [illegible]

government? [illegible] at different points; some time, not far off [illegible]. It would be a good thing to have the meaning given in Japanese as well as English (in which English) for the Japanese is about the same and it is not always translated into English with perfect exactness; in fact by a double translation the divergence may become important. In the first [illegible] the English would be given as nearly as possible, as well as the Japanese, and the [illegible] would [illegible] English [illegible] as well as Japanese.

Mr. [illegible] said he had heard you had become a father and [illegible] congratulate you very heartily. Mr. [illegible] arrived on the [illegible] [illegible]. He [illegible] in good health, but [illegible] his father was suffering from [illegible] disease the [illegible], just before going he [illegible] a [illegible] [illegible] painting. I hear that Mr. [illegible] has just arrived here or is expected in a few days, so that it will be impossible for you to give him my regards on receipt of this, but please give them to the [illegible], Miss Davis and Mr. [illegible] if he has returned to Sapporo. Mr. Dun is [illegible] to be authorized to go there next month so as to begin his farming operations [illegible] in good season, and I believe the plan is that Mr. [illegible] should go too. The winter here has been unusually severe, and about here there was more snow than had been known here for thirty years or more, eight or ten inches on a level for fifteen miles. [illegible] should [illegible] that my assistants and I are going to [illegible] [illegible] of [illegible] for the [illegible] during a [illegible] [illegible] [illegible] [illegible]
[illegible]

Jeddo, Japan, Shiba, 16th Feb 68.

R. Yamaoka, Esq.

Kanagawa.

My dear Sir:

Your favor of yesterday came to hand this morning; & I am very glad to get the addition of the Tokugawa & the Satsuma to my signature. As soon as all is ready I will take your final response & the Kings Letter & be off to Yokohama & about and will be happy to call and inform you before the King's guns are fired.

The 16th day of the 2nd month will be the last day of the 2nd month for instruments & American ships and the last day of the 2nd month for Yokohama ports & the American consulate. But it will be no use then either, for this is all a dream for the [illegible] & the 16th day and the Yokohama, for it is not to be the first month until the 16th day.

Very truly yours.

Rob't Hewlett Lyman.

Dear Sir,

I return you herewith the proof slips A, B, C, D and E received this morning, and beg to state that I have found quite a number of mistakes (which I have not) were left uncorrected in printing though marked on the proof. I also enclose herewith a slip on which you will please put in the bill of the bill of lading for the goods under this report. And I do not think it necessary, as there will be nothing else for it to do. I have prepared a report for it by a table of contents.

You will easily perceive that I feel a responsibility in the preparation of this report, although it is naturally still very incomplete, and I trust that you will let me see it before going to press, as I would be very much pleased to have it as correct as possible before its departure.

Yours truly,

Thos. Smith Chapman.

1915

To be laid on the back of the title page of the Report of Daily Progress for 1875

It is desirable that you should advise us, without fear, and fully in that matter of the geological and mining exploration of the Province, but also any matter of importance that you may think it proper for us to carry out in the [illegible] Special Instructions of the Australian A. & M. Exploration Co. dated 20th May 1875.

Tuba, 15th Feb. 1878.

1st Feb. 1876.

Rev. R. L. Nixon

Pt. Chalmers.

My dear Sir,

I have to thank you for your letter
enclosing with its enclosed translation of the Native
memorandum, and in order to facilitate future communi-
cations beg to suggest that in regard to correspondence
such as you made in them, in advance of
special visits as often as you can
[illegible]

[illegible] VII. to place [illegible]
[illegible] and by a good [illegible]
[illegible] in our work is to [illegible]
cannot [illegible] even though [illegible]
some [illegible] I should not [illegible]
the [illegible] Commissioner through the [illegible]
[illegible] through the Commissioner
[illegible] having been obliged in [illegible]
[illegible] would [illegible]
[illegible] "[illegible]" [illegible]
[illegible]
[illegible]
[illegible]

or Communicating with him through you!
all that addressing him through you! You would have
be more concerned in the matter than
Sir F. Kantakuzi understood the expression & have the
honor &c. &c. Consider me Dear Sir as always
& believe me &c. &c.

I beg to submit the following observations
Dwelling the Minister of the Interior
the correspondence with my assistants
A new system passed from Government without any knowledge
but I intended passports
with letters from them & their relatives or to make it in
possible from Government to send a note to a hotel
for an inquiry for lodging, and so there might be
no misunderstanding with them, but as it is impossible
can easily give them any trouble, I have no objection
to being stopped. My idea was merely to express the
in a more etiquette & polite manner
a courteous intercourse
reporting & an outside before reporting
the Government

In Article XI

because in the unfortunate want of any means of [illegible]ing with any Commissioner of the Board and of my feeling obliged to disobey his order in spite of the [illegible] that he would dismiss me, I wish to be able to [illegible] into my [illegible] by showing the [illegible] to any [illegible] so as to convince him that my account of it is not unsupported as with regard to a verbal order the exact meaning may be misunderstood or the exact words may, through imperfect memory be forgotten so as to give rise to [illegible] of it a third time [illegible].

I do not quite understand what you say in the [illegible] of your letter about not charging the [illegible] [illegible] of [illegible]. I've carried in five days [illegible] upon which he [illegible] by the [illegible] saying "it is not necessary for you [illegible]" there is no such [illegible] in the instructions. I hope you do not mean I am to [illegible] the travelling allowance mentioned in your letter of this day for [illegible] [illegible] "necessary for my service". If I [illegible] would [illegible] of the allowance [illegible] [illegible] of my travelling [illegible] [illegible] should think necessary.

Hoping soon to see you [illegible] I beg to remain,

Very truly yours,

[illegible]

Paris, 17 Feb. 1876.

Mr. Hewitt, [illegible]

Dear Sir:

Havana, Cuba, 21 Feb. 66

Gen. K. S. Olcott

U. S. Sanitary Com.

My dear Sir:

I write to get my friend Dr. [illegible] of the Navy Yard Brooklyn to go [illegible] I wish he could [illegible] but perhaps it will not be any [illegible] possible, he may be home engaged [illegible] or may be so far away, at his home [illegible] as to make it inconvenient for him [illegible] In such case I will ask the favor of Mr. Bowman [illegible]

[illegible] yesterday, with a few of the classes about [illegible] visiting my general efforts. The magistrate [illegible] Barcelata will be entertained at the Quinta [illegible] Paseo Marti at ~~the~~ breakfast ~~through~~ much [illegible] the Commissioners of the Board; & what would be [illegible] and charming ~~more~~ ~~pretty~~ than it is a most [illegible] [illegible] case [illegible] with much [illegible]

[illegible]

Very truly Yours

Chas. F. Fredk Leyguarie.

List of Articles &c.

1 Pair of Silk Stockings (= Object Glasses)
1 Pair Cotton ditto.
1 Pair Worsted ditto.
1 Pair of Cotton Quilters.
1 Pair of Worsted (or Thread) Calf Quilters.
1 Pair of Worsted (or Thread) Ankle Quilters.
1 Pair of Black Sandals.
1 Pair of Spectacles, Tortoise or Horn, with Glass Lenses.
1 Pair of Spectacles with Glass Lenses.
1 Pair of Spectacles with Leather Cases.
1 Pair of Green Goggles with Leathers.
2 Pairs Hands or Handkerchiefs.
1 Pair of Snow Shoes.
1 Hunting, or Large Knife, with Scabbard.
1 Small Knife, with Scabbard.
1 Wooden Water Bowl, with Spigot and Faucet.
1 Bucket with Pail, Stick and Cinder for each.
1 Frame for Bed by Men Covers in Eating.
1 Stick used by Men in Braiding Moccasins &c.
1 Comb for Do.
1 Pair of Awls, a sort of Needle for each.
1 Bodkin for Do.
1 Pair of Calling Deer.
Shoes.

Daimon, Niiba, Yedo, 23 Feb. 1

Messrs. Heller & Brightly,
No. 33 North Second St. Philadelphia.

Gentlemen:

I requested you some three months ago, to [illegible] me the right Stencil you were making for me [illegible] go, but to keep it until [illegible] return. I have now [illegible] speed & stay, one couple of years longer, [illegible] I shall have my fun in Japan undisturbed and [illegible] engine but they should each have had an [illegible] but unwilling to order so many before gaining a [illegible] trial, I entreat you to show me at least as much courtesy as you would to any common stranger, and send me my instrument to Care of Messrs. Heimann & Co., No. 33, Yokohama with the least possible delay. Also please inform me in advance what would be the cost of a dozen such instruments, and, if the order should be a rather large one, please go as far as you can in reducing the price, corresponding to the allowance that you make in favor of disreputable purchasers, agents &c.

I daresay it is superfluous to inquire about the new invention announced in July, 1874.

Hoping to hear from you soon, I am [illegible]

No 50.

Iwamura, Shiba, 25 Feb. 876.

His Excellency K. Kuroda,
Kaitakushi Yedo.

Sir!

I have the honor of my engagement with the Kaitakushi I would respectfully request my present dwelling and my present Kaitakushi furniture thereto for a further engagement by the Government for. I will therefore remain in Tokio and shall probably also be some time here for some time. I would like to make a final arrangement in regard to the furniture and the building, but as my pay was more than a year ago. The Kaitakushi probably have no particular wish to remove those buildings as the Druggist one and fitted to the rooms which have, and I think it would be very much for a low price: in regard to the other furniture I am ready and very willing to give it up, if the Kaitakushi wish it may be entirely left with it, I would possibly wishing it for the convenience of the [illegible] I have [illegible] I would however like to buy it at a reasonable price, say two thirds [illegible] specified pieces that are not [illegible]

I am Sir, Your obedient servant,
K. Iwamura

No 1

Shiba, 27 Feb 1870.

Hon. S. Kawase,
Kawasaki-gorrijo no Gonokami.

Sir:

(S . . .

Librarie : Is there the following articles borrowed from the Institution

p . . . :

(. . .) .

. . .

(. . . in doors, . . .

(. . . Bd.

(. . . Bd.

3? . . . borrowed a . . . are not in good condition and I would recommend that the following be sent for . . . adjustment and repairs . . . viz. Van Lier's Books of Orchestra except the viz which is probable be . . . at hand. I add also a conjectural . . . of the cost of the repairs and (exclusive of Hargers) . . . the . . . [illegible]

5 Swords ——— $15.00
2 Bowie ——— 4.50
6 Targets ——— 3.00
$31.00

I would also recommend the following articles be purchased in Cuba and added to the original cost.

5 pair cowhides @ $5 ——— $25.00
7 swords @ $2.50 ——— 17.50
2 pair vertical rifles @ $2 ——— 4.00
300 percussion caps @ 4 c. ——— 12.00
14 dozen pencils @ 50 c. ——— 7.00
[illegible] ——— [illegible]
[illegible] ——— [illegible]
12 dozen steel pens @ [illegible] ——— [illegible]
2 pocket knives @ $1 ——— 2.50
3 [illegible] @ $3.00 ——— 9.00
$[illegible]

I would further recommend the purchase of a good cavalry saddle & bridle and a mule to transport the above articles

20 Cavalry Sabres with belt and [illegible] @ $1.95 ——— 39.00

5 Levels @ 80 ¢	$ 4.00
3 Vernels @ 45 ¢	1.35
10 Notebooks @ 25 ¢.	2.50
15 Watches @ 42 ¢.	6.30
14 [illegible] rulers @ 100	14.00
3 Leather cases @ 120	3.60
15 Level Staffs @ 150	22.50
15 Level tripods @ 100	15.00
30 Surveying rods @ 100 ¢.	30.00
18 Pickets @ 200	36.00
18 Axes @ 200	36.00
30 Chains @ 20 ¢	6.00
1 Slate @ 40 ¢	0.40
1 Field chair @ 450	4.50
3 Cases Surveying instruments @ 1300	39.00
9 Cases do. do. @ 850	76.50
10 Colored rulers @ 15 ¢	1.50
1 Large drawing table @ 750	18.00
4 Smaller do. do. @ 600	24.00
15 Small drawing tables @ 240	36.00
15 Blake rules @ 100	15.00
1 Pocket Rule @ 100	1.00
1 Surface gauge @ 2½ ¢.	2.50
2 Scratchers @ 10 ¢	0.20

15 Medzuribako @ 35 f. — 5.25
30 Sumi @ 12½ f. — 3.75
3 [illegible] @ 15 f. — 0.45
8 Red ink @ 25 f. — 2.00
8 Blue ink @ 25 f. — 2.00
15 Portfolio @ 30 f. — 4.50
2 Lejo Hosoki @ 1.00 — 2.00
2 Lead pencils @ 10 f. — 0.20
14 Gokuroku @ 5 f. — 0.70
1 piece Sumi-e leather @ 1.50 — 1.50
5 Whetstones [illegible]
5 Red [illegible] @ [illegible] f. [illegible]
[illegible] @ [illegible] f. [illegible]
15 Brushes @ 21.6 f. — 2.
15 Small Brushes @ 10 f. — 1.50
5 Ino Brushes @ 27 — 13.75
5 [illegible] 31 — 1.55
5 Ink-rubbing Rests @ 4.50 — 22.50
10 [illegible] Rests @ 1.50 — 15.00
1 box Wooden @ 2.50 — 2.50
10 [illegible] @ 50 — 5.00
3 Hosoki Cord @ 20 f. — 0.60
10 Sheets Paper @ 3 — 30.00
50 " oil paper @ 9 f. — 4.50

12 Kaffir @ 75 f. ——— £ 9.00

Ex 1135.97

Having been so materially to cause the aforementioned repairs and purchases to be made I have the honor to be,

Sir,

Your most obedient servant,

Wm. Smith Lyon

Chief Geological and Mining Engineer

& Ex. Surveyor

219

Shiba, 1 Mar. 1876.

My dear Mr. Yamauchi:

Many thanks for your favor of yesterday and the Steamship, and the message from the Paymaster. Please tell me what payment you mean. If he is other than I and his time costs the government more than mine, I shall be much happy at ~~not~~ to pay it. Please ask him to call at my office and regard it a favor if he will wait upon him at his convenience. But if it be otherwise I beg you will kindly ask him to bring his money here at my place of business (Hongwa) or at my dwelling (Omote). As I shall have to go to Yokohama after receiving it, and would like to go this afternoon on account of the closing of the office there, it would be a great convenience to get the money before noon today.

Yours very truly, Eug. Smith Lyman.

220

St Ina, 29 Feb, 1876.

1 Theodolite
Sirkenba. Hokuwankuwai.

Sir,

I request you will please arrange for the surveys the following maps to be according to the Sketch done by you.

5 Tables
3 Chains
160 Notebooks
15 Plate
14 Barometers
28 Leads, &c.
3 Measuring
1 [illegible]
[illegible] rods
18 Pocket
[illegible]
2 Tables

3 [illegible]
1 Slate pencil.
3 Sets Drawing instruments
2 Sets do. do.
1 Boxwood rulers.
1 Large drawing tables.
1 Small do. do. do.
15 Drawing Tables.
15 Shaku rules.
1 Nishaku rule.
[illegible]
30 Rubbers.
5 Sumi-suribako.
30 Sumi.
30 Shumini.
8 Bottle Red ink.
8 " Blue ink.
15 Portfolios.
[illegible]
[illegible]
24 Cocoa.
[illegible] Drawing tables.
3 Mahogany [illegible]
3 Rubber [illegible]

5 Rulers (2 f°).
5 Squares.
5 Small Compasses.
5 Large Compasses & Dividers.
5 Cards.
5 Pairs Scissors.
12 Camel's Hair Pencils.
12 Sable Pencils.

[illegible]

[illegible]

[illegible]

[illegible] Smith Esqre.

[illegible]

P.S. Many thanks for the note you sent this morning. I would have called today by the Chapel & must have done so but knowing it was Sunday & well as Monday, and so knew my Ld would be fully occupied with Sermons &c &c.

Tuesday.

[illegible]

Yokohama, ... 1876.

U. S. Consul &c.
Japan Miscellaneous.

Dear Sir:

I send you herewith
1 VR (Thirty Attested Copies and
the Original Affidavit of ...
of ... and I ... have
not yet
...

225

Nº 2

Dribuj 7 March, 1876.

Hon. H. Rawlins

Geo. Commissioner &c. &c. Kowanyama.

[illegible]
[illegible] as I understand) a rough draft
of estimates of expences for our Surveys during
[illegible] this Land year and through
[illegible]
[illegible] Consultation, a few
days that can be [illegible] we shall [illegible]
[illegible] points [illegible] probable [illegible] can
[illegible] be [illegible]
[illegible]
[illegible] estimates [illegible] records [illegible]
[illegible] Gamaucus [illegible] I am [illegible]
[illegible] [illegible] [illegible]
[illegible] your corrections may [illegible]
[illegible]
[illegible] two persons [illegible]
[illegible]
[illegible] Second Ringer is included [illegible]

[illegible] you will that cannot now be fur-
[illegible] or included upon. It is possible
[illegible] you may with next spring [illegible]
[illegible] assistance [illegible]
[illegible] sodden which would cause an
additional expense [illegible] something [illegible]
[illegible]. It is impossible that we can learn
[illegible] until [illegible] next spring.
[illegible] the sets of land boring tools
will cost perhaps 5 to 10 per. If you
should desire to provide for possibly
[illegible] use of engineer and tools for
boring [illegible] it will be necessary to add
[illegible] per cent contingent fund to
[illegible]. It seems [illegible] to provide for the
uncertain expenses by a contingent fund
[illegible] can be determined only approximately
[illegible] great degree the other expenses,
[illegible] the probable amount desirable
[illegible] purpose [illegible]

upon) the Indian allowance for the trip
to Erie and the Legislature in Four
weeks [illegible] Legislative & travelling
allowance to myself. I did have travelling
companions because it will probably be
necessary for me to visit
Harrisburg in order to see all the
places and better to [illegible] the
[illegible] to [illegible] the
[illegible] Legislature and Statistics [illegible]
[illegible] to Europe [illegible]
[illegible]
[illegible] and
On the other hand I have received
[illegible] 36 days,
[illegible] in all 42 days
[illegible] 42 days), the wages
[illegible] 6 laborers each working
37½ ¢ a day [illegible]
[illegible] 3.75
[illegible] 5[illegible]
[illegible] 35 & 40 [illegible]
[illegible]

I have written out these comments
as I [illegible] in order that you might
consider [illegible] at your convenience, and
[illegible]

Dear Sir
Your most obedient Servant
Benj: Smith Lyon

Annual Estimate of Expenses

of Geological Survey for Fiscal Year ending June 30

1 Director, 1 mos. @ $416.67		$4166.67	
Travelling allowance, $3000		237.50	
Travelling do. for do.		200	
Field do. 230 d. @ $5		288.750	
Station do. 27 d. @ $2.50		67.50	
Postage do. $250		250	$4772.292
1 Chief Assistant & Paleontologist.			
Salary, 4 mos. @ $70		280.00	
Travelling allowance, 4 d. @ $4		16.00	
Tour do. 55 d. @ $2.50		137.50	
Station do. 27 d. @ $1.40		25.38	483.380
11 Assistant geologists:			
Salary, 3 mos. @ $83.33		249.99	
Travelling allowance, 3 d. @ $4		12.00	
Tour do. 55 d. @ $7.50		412.50	
Station do. 27 d. @ $3.00		81.00	757.50
1 Paymaster assistant:			
Salary, 4 mos. @ $30		120.00	
Travelling allowance, 3 d. @ $4		16.00	
Tour do. 55 d. @ $2		110.00	
Station do. 27 d. @ $1		21.00	287.00
	Carry forward		6301.22

Amount forward £6901.022

1 Clerk:

Salary, 3 mos. @ 15/—	£ 45.00	
Travelling allowance 9d. @ 30/	7.20	
Tour allowance 55 d. @ 5/	30.25	
Station do. 27 d. @ 2/	2.10	90.550

6 Cooly laborers:

Wages, 64 d. @ 3/6 mo.	[illegible]	
Travelling allowance 9 d. @ 2/	4.50	
Cabin and tent do. 12 d. @ 2/	12.00	294.000

36 Day laborers:

Wages, 55 d. @ 2/ mo.	495.000
Implements cost and repairs	10,74 740
Freight on 300 tons, 1000 @ 10/	[illegible]
Miscellaneous camping expenses, damages	30.000
Postage and couriers	30
Sundry moneys for contingencies	500.000
	9045.572

[illegible] B.C.

[illegible]
[illegible]

General Estimate of Expenses
of Geological Survey for the year July 1876 & June 1877.

1 Chief geologist & mining engineer:

Salary, 12 mos. @ $333⅓	$4000.00	
Horse Hire, 365 d. @ 2½	9.25	
Travelling do 240 d @ 2½	600.00	
Tour do 60 d. @ 5½	315.00	
Station do 75 d. @ 2½	176.875	
Luggage do 300 mi @ 10¢	30.00	$120.625

1 Chief assistant geologist:

Salary, 12 mos. @ 70	840.00	
Travelling allowance, 365 d. @ 2½	91.25	
Tour do. 117 d. @ 2½	292.50	
Station do. 75 d. @ 2½	187.50	1284.00

11 Assistant geologists:

Salary, 12 mos. @ 130 each	1716.00	
Travelling allowance, 365 days @ 2½	247.50	
Tour allowance 117 d. @ 2½ p.	292.50	
Station do 300 d. @ 2½ p.	337.50	3693.50

4 Draughtsmen & assistants:

Salary, 12 mos. @ 60	840.00	
Travelling allowance, 365 d. @ 2½	304.00	
Tour do. 60 d. @ 2½	150.00	
Station do. 75 d. @ 2½	93.75	1387.75

Carried forward $ 6485.375

Transport M 1777.02

1 Schmied:

Lohn [illegible] M 113.65

[illegible] 6.00

[illegible] 3.00

[illegible] 22.60 M 250.25

1 Hilfsarbeiter:

Lohn [illegible] 258.12½

[illegible] 76.50

[illegible] 36.00

[illegible] 57.00

[illegible] 172.50 M 600.12½

3 Arbeiter:

Lohn [illegible] M 1053.10

[illegible] 112.00

[illegible] 33.00

[illegible] 30.10

[illegible] 3.00

[illegible] 3.10

[illegible] 1232.10

[illegible] 2000.00

M 2532.30

[illegible]

[illegible]

Shiba, Tokio, 1876.

My dear Mr. Yamaoka:

I send you herewith my draft with estimate and a letter to Mr. Kawase, and hope you may be able to see to his translation. By the way, please sign your name as translator [illegible] for the translation, and the letters you make are made. Mr. Kawase would like to [illegible] as to the [illegible] but I [illegible]

Shiba, 8 March, 187[illegible]

[illegible] Bentley Austin,
No. 60, Yokohama.

[illegible]

Shiba, 8 March, 187[illegible]

[illegible] Bentley Austin,
No. 60, Yokohama.

Dear Sir,

Mr. Van Lear Wilkins,
Va. Co Wilkinsons.

Gentlemen:

I think from your
letter yesterday that you did
not quite understand mine. I
did not mean to say that the
prices you charged in the bill
were in general high prices
but I understood you to say
that you had not charged
enough to cover the
expenses of the trip, and I
only remember one article
that was on the bill at
a higher price than I
could have got it for
in Richmond

I expect you will throw in the
price of the trip price $10.
Today I purchased a heavy
[illegible] and
medicine [illegible] Hot Springs
[illegible] for Mr. Lear
[illegible] a bag
[illegible]. The [illegible]
will not have been much
[illegible]
[illegible]

N. 3

Turin 13 Mars 187..

emergency he ought to
be mentally well informed and experienced
in such matters, being naturally
would depend
on the honesty of his advice having
a great integrity, and as
it would cause a delay of the sale and
be injurious to the
efficacy that arose under from
ignorance, inexperience lack of
knowledge
necessary & employ
of proper and honorable
such as to
habits of
after
temptations for greater
none, for such ones are much more
reasonable and consequently
cheaper here. Such a man as
you want, men of tried character and
unremitting and established reputation
can at home without opening

mean the salary assigned to him in detail
Thereby (only one week). It is also
[illegible] of inducing [illegible] to make
[illegible] for two or three years at
Szymanski's [illegible] Baltimore
[illegible] Denver, [illegible]
probably [illegible] year
and no provision is made in the estimate
for the expense of Chicago. America
and back again, and his salary during
[illegible] trips.

I may add that about [illegible] years ago
he was very prosperous and able to travel
[illegible] in America searched for material
[illegible] during some three months & read
[illegible] in [illegible]
[illegible] and
finally took me instead, a man peculiarly
[illegible] by family ties for American
[illegible] & travel and possessed by a strong
[illegible] to see the geology and customs of
[illegible] countries.

2. [illegible] mentioned an interpreter
[illegible] express [illegible] Messrs and

[illegible] the expectation was to have one or both engine[illegible] if only one shift is intended with [illegible] are just sixteen men to do what is done by two [illegible] men in N. Queen! It would seem that the interpreter might undertake the duties of [illegible] and [illegible] men would effectually overwork himself.

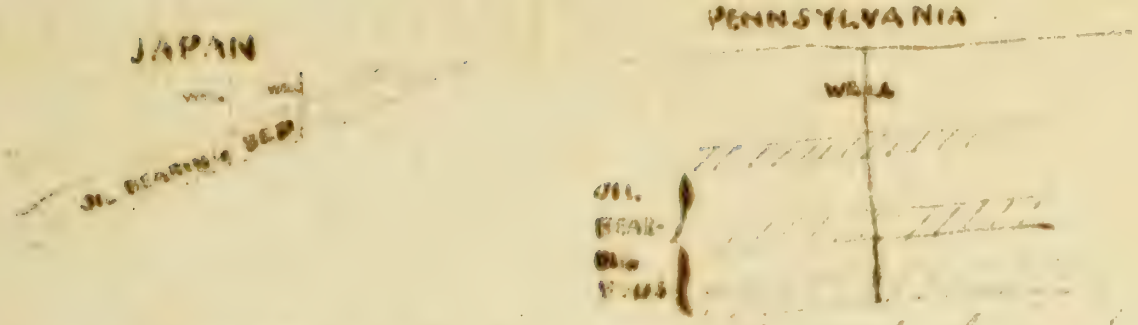
2. The travelling allowance of the interpreter and [illegible] seems hard when the reporter & that of the engineer and the wages of the drivers are just about double what the [illegible] of permanent hands [illegible] do.

3. The two [illegible] with [illegible] about what [illegible] and [illegible] pipes 6 or 8 ft long

$160 are either something not wanted at all or are tubing intended at four times
[illegible] would cost, or else casing [illegible]
[illegible] bore. [illegible]
ours $300 in the 2 borings and ours
$1600 in all $1960 are probably without
to include wrecks for 3 sets of tools
which would cost of the best quality
$700 (American cutters). The 2 borings
and casing, $2400 (for 1200 feet
all of which said) might not be cost more
than $300 in America. The "high freight" $000
would be I should think quite right too
high if the things were sent by sailing
vessels, as they ought be well packed
and the like may be said of the freight
from Corfu & Salonica $600. The
2 towers 72 feet high $300 are probably
high enough every way for our purposes, even
if intended to include all the carpenters
work about the wells; but the cost depends
on that of the [illegible] as well as
the labor. As to the [illegible]
250 barrels and returning of [illegible]

$45 & for the purchase and freight to Japan of the machinery, tools and ropes could probably be bought and brought here for about $4000; and I should be glad to know who suggested such prices that we may be on our guard against him either as one who is without knowing it grossly ignorant of the matter he takes in hand or as one who deliberately plans to cheat us.

5th But aside from the extravagance of some of the [illegible] estimates the machinery [illegible] even if it could be well & cheaply the whole amount of [illegible] (seventy-eight thousand dollars) in such a trial of the oil lands. In my opinion it decidedly would not. Such deep borings as are [illegible] by the machinery of the estimate will probably not be needed at all for a satisfactory trial of our oil lands as rock which overlies them of the Tertiary Eocene oil region, do not lie usually at a great depth, but, as I understand, [illegible] at the surface of the ground in many places. Even if other kinds are



the case of the beds we should find encouragement for deeper borings, it would probably be advisable to begin them at once with steam power while the material for the rigs is still available. Given a number of deep borings [illegible] number [illegible] of steam engines and boilers would soon [illegible] the management of the enterprise it is hardly worth while to bore [illegible] experimental borings of doubtful results, [illegible] as such a course is not at all essential for deep wells. Borings to a depth of eight hundred feet or more can be made by hand with [illegible] and casing [illegible]

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few, and that the whole product of an oil lands will be much greater if a simpler method requiring less capital [illegible] is introduced, even if the [illegible] and manual labor would be [illegible] greatly; for those are cheap in Japan. [illegible] boring it is very simple that even any body of [illegible] natural intelligence can readily learn it, and almost any one who has learned it can nearly as easily [illegible] by [illegible] with the help of [illegible]. (In China, for example, very deep wells have been bored for hundreds of years [illegible] [illegible]) [illegible] they could get their own oil and expense [illegible] from a great number of holes in the places found by our surveys and trials to be encouraging; and the government would be at no further cost [illegible] [illegible] a [illegible] than on the [illegible] [illegible] the cost of our survey [illegible] [illegible] should then [illegible] to [illegible] [illegible] larger [illegible] [illegible] Japanese.

of a great number already skilled in boring, and would only need in addition men familiar with steam engines and their repairs and would not be saddled with the expense and difficult selection of foreign headmen. If a really competent engineer was employed he could then have the general supervision of many wells and so add less to the cost for each one.

6°. Supposing then that our trials be confined to the simpler and, though slower, under the circumstances cheaper, but rather satisfactory, methods of boring, the estimates can be greatly reduced, even though the number of borings should be increased to meet the greater slowness. If the boring be five times slower it would only be necessary to have five times more plant in operation at the same time. But an increased number of holes for the testing of the fissures will be necessary so that the saving of money will be still greater. By beginning with shallow, easily made, check borings the probability of the

success of deeper ones can in some degree be determined beforehand; and the experience obtained from the earlier holes will at least help one to estimate the latter, deeper holes.

Suppose for the first year that an honest, intelligent native agency official capable of managing workmen be put in charge of the borings and paid a salary of 30 rupees a month, or including an allowance of [illegible] rupees for [illegible] and that with one boring and a [illegible] he can keep the work, he could become capable of [illegible] after making [illegible] borings at one time in the same neighborhood. Or say on the average for the whole year three borings. Each boring would need four workmen at wages averaging say 8 rupees a month each, or in all 1080 rupees in the year. One blacksmith and his aid could mend all the tools with a pay not higher. ₹25 rupees per month according to the estimates handed me.

3

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3

The hand borings of the [illegible]
should be successful it will probably be
[illegible] enough to decide about the close of
that year whether [illegible]
be worth the next year — it [illegible]
But perhaps we can already [illegible]

[illegible] day & a depth of 300 feet
would be for a year. Suppose:

2 Sch. [illegible] tools @ 250	$5.00
6 pieces of large [illegible] heavy rope	150.
[illegible] year's [illegible]	3
Good work, [illegible]	2 m.
[illegible] with [illegible] 300 days @ $2.00	
2 Skilled laborers, 1 year,	200.
1 Blacksmith [illegible], 1 year,	100.
1 Clerk, 1 year	66.
Other [illegible], perhaps	100.
	3166

On Prospect of boring, 10 wells [illegible] $[illegible]
foot.

[illegible]

10 pumps @ 40 ——— $400.
300 ft. [illegible] @ 33½ ¢ ——— 100.
300 ft. Rubber hose @ 1½ ¢ ——— 50.
10 Banks @ 130 ——— 1300.
Pumping [illegible] ——— 1300.

4900.

[illegible] proved
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]

pumping expenses would also amount to perhaps
25 or more, if the wells were successful, but
only [illegible] if they were unsuccessful.
The sale of the land would not be
[illegible] except
the building of the line and perhaps
the purchase of [illegible]. Besides
[illegible] the sale of the oil,
from the successful wells much of the pumping
material (pumps, [illegible], tubing, tanks)
could be utilized in the exploration
of the wells as developed or sold
sold.

I [illegible] yet without a visit to
the oil lands say positively that even
[illegible] boring would be desirable; but it
seems highly probable that it will be worth
while to make at least [illegible]
trial as that. If, therefore, you should desire
it, such boring might begin at the beginning
of the next fiscal year, as soon as the
[illegible] have had a chance to see something of
the ground [illegible] an opinion of practi-
cability [illegible] of the [illegible] whether the

borings could be seen as the area would not be suspected if not after our visit. I may we could drink beer more [illegible] then. Indeed, I may think it best for us to [illegible] until next spring be-ore long at all.

8° If I [illegible] much better than I have [illegible] of the future [illegible] Mr. U. Atkinson [illegible] assistant in the Kailas[illegible] and although I have [illegible] would [illegible] services be secured, I [illegible]. It would of course be, to say the least, a loss to the Government [illegible] should [illegible] several years. I would be loath [illegible] to occupied and [illegible] be cause, although we confident of his honesty, [illegible] that he has [illegible]

11

treated by the Kautakauchi, & all gentle
the most erroneous impression that he en-
couraged cowardly & [illegible]
to [illegible] treatment by the Kautakauchi in-
reference to [illegible]
Kaitakauchi letter in my possession &
knowledge the greater [illegible]
of the same. [illegible]
to falsify [illegible]
of which however he was wholly ignorant.
It would perhaps be unjust & unkind
he was so treated with contempt by the Govt.
to annoy me through him, [illegible]
with me very [illegible]
to the least [illegible]
[illegible]
I have thought proper to mention this
[illegible]
his services would be so [illegible]
department, but because I [illegible]
possible to prevent the [illegible]
mind of any prejudice or [illegible]
[illegible]
[illegible]

wish for.

I have brought in [illegible] a voluminous detailed report on the whole subject of the proposed evacuation rather, I am merely to say that [illegible] and a mass of extravagance, for I am convinced that if you are [illegible] persuaded of the necessity [illegible] view of the subject I [illegible] have saved the government more than the whole cost of our [illegible] for [illegible] years to come and only [illegible] may be able to succeed [illegible] Lord queen.

Confident I hope this [illegible] a result, I have the [illegible]

Sir,

[illegible]

Fournier, Dacin[illegible] [illegible] 13th
(Aftern[illegible]) 1876

[illegible] Van Lein Brothers
No. 10, [illegible]

Gentlemen:
I have just found
[illegible] table your letter [illegible]
[illegible] much obliged to you for
[illegible] correcting [illegible] bill. [illegible]
I must say that the two [illegible]
[illegible] [illegible] [illegible]

[illegible]

[illegible] do, I will [illegible] [illegible]
[illegible]
[illegible] I remain
Yours [illegible]

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[★ No. 93]

Postscript. — Shiba, 15th March, 1876. — On looking more closely at the rough draft of estimates for oil boring, I find that two foreign head miners and two boring foremen [illegible] counted on for the last year [illegible] half, and that the whole expense therefore amounts to about sixty [illegible] thousand [illegible] instead of forty-eight (48). The amount of boring in the whole time, would be [illegible] nearly equal to that I have proposed; but the difference in outlay is still more striking.

Moreover I learned yesterday from Mr. Munroe that [illegible] wells have been sunk to a very great depth [illegible] without any serious inconvenience [illegible] and perhaps [illegible] very great expense. [illegible] with the simple boring platform, and as they [illegible] [illegible] and the [illegible] been [illegible] [illegible] after [illegible] the [illegible] to adopt that [illegible] in a region where the inhabitants are already [illegible] and so expert that [illegible] to them [illegible] for the purpose [illegible] of our tools. [illegible] our trial wells could be [illegible] contract at a certain price a foot much [illegible] than otherwise. [illegible] been [illegible] decided before going to Echigo. — B. S. L.

Havana, Cuba, 21 March, 1895.

My dear Mr. Simonds:

[illegible]

Town of Marion, Ohio,
22 March, 1876

H. Parish Esq
Cashier Marion Co.

Sir:

Enclosed please find
an order on U.S. Treasurer
Mark Reg. for $32 and 5
Dollars in greenbacks in
payment of Taxes for
the Town.

[illegible]

Hombo, 24 March, 1876.

Dear Seaville. Augusti.

As you requested I hand you herewith a list of the Kaffir [illegible] that I have, with a few remarking marked against those pieces that I should like to buy, leaving Kaffirs [illegible] that I have not been willing to buy.

1 Kaffir.	1 Angashi
1 Kaffir.	1 Kaffir.
1 Kaffir tribe	1 Kaffir Shield
1 Assegai.	1 Assegai
1 Assegai.	
1 Assegai	
Kaffir Doll	1 Kaffir
[illegible]	[illegible]
[illegible]	1 Kaffir Shield

[illegible] most likely [illegible] a Kaffir. If [illegible] more likely [illegible] generally. [illegible] Zulu injured in appearance; but if any of them [illegible] in worse condition than ordinary wear and tear, I am willing I have been willing to buy them too.

Did you hear anything about possibility of my having [illegible] So it would be of use to me shortly. I mean to [illegible] otherwise you will have [illegible] but if not I would [illegible] if I could.

[illegible]

[illegible] 5th Mar.
1876.

My Dear Mr. Hamerschi:

[illegible]

Hamden, Shiba, 23 March 84

Dear Mr. Hammett,

[illegible] finding [illegible] came to hand, and it will give great pleasure to show Mr. Shigeno in the trial digging. I will make out an estimate [illegible] That work, but in my mind is worse the cost of digging by contract in Tokyo and of impossibility of such work stop cutting of other [illegible] connected with the work in that place it is very difficult to estimate [illegible]

[illegible] give some facts in connection with the subject.

Your [illegible] morning is also at hand with [illegible] of the inside and after [illegible] will forward them to Mr. Kawase.

I think the Tops for the drawing tables, one for [illegible] and partitions (without grooves) will be [illegible] and will, I think, upon some trial, but am very uncertain about the cost.

Yours very truly,

Chas. Smith Hyde.

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No 4 Shibu, 27 March, 1871

J. Kaurse Esq.
Kawasaki Yamato no Kami.

Sir;

I beg to send you herewith revised general estimates for the various expenses of this and the next fiscal year, together with a list of additional implements and outfit needed for the new geological staff and of a few things still wanted by the rest of us, with the estimated cost. The corrections made in the estimates are but few explanations. As the new incidents are expressly included in the separate estimates for boring or digging expenses will be the subject of a separate estimate. The main principle of the contingent fund for next year formerly proposed are [illegible] to reduce its amount as I have done, five thousand Ryo. Instead it is [illegible] have in other respects been carried out and no [illegible] has been

overlooked as many keys & locks the while of the door and keys as well as the fire hose keel rugs allowed for these upon contingencies; but, as we cannot feel sure of having foreseen everything with perfect exactness it is probably best to consider ... Scuttle & draw from, in order to prevent the necessity of keeping over work from lack of money. If the ... prove in some items to be a little too large, the money saved can be added to the contingent fund, and applied to the payment of those items that may have been underestimated as well as of those that have been altogether overlooked.

The Engineer estimates the expense of printing reports and reports wagon freight; but it would seem to be unnecessary item. If such papers are provided there is great risk of their becoming mislaid, destroyed, lost or burned up, especially in a country of wooden houses. There should one copy in the Secretary's

for use not only in the government office at Ojo, but in case the oil or other mineral deposit should be worked in the field; and if [illegible] copies are wanted the additional cost of printing a large number of [illegible] extremely little, making the [illegible] amount probably not one tenth of the cost of the survey. If maps copied by the chemical process [illegible] at some moment may come under the eyes of even unofficial individuals who have the leisure, taste and skill to make a careful, [illegible] and profitable study of them with a view to the practical development of the resources of the country by means of [illegible] capital. Such reports and maps will also be very useful in the [illegible] assistants and corps of the students as well as of great interest to [illegible] (should our work [illegible] prove) to all geologists, [illegible] as they are [illegible] to their [illegible] of labors. [illegible]

gathered in a new field. It is also important that our work should be subjected by means of publication to the criticism of the world, and the consciousness that it will be so critically examined by ~~some~~ one of all living men the most competent to judge it and even by future scholars is the strongest incentive to ~~correct~~ work. It is perhaps pardonable too if we have even a selfish hope to extend our influence through such a publication, for it is highly important to the government whether the value of our work is to be enhanced by whatever additional weight our names and consequently our statements may acquire. However it may be there can be but a pecuniary advantage to the government if it should embrace its opportunity by enlightening the ~~world~~ by publication, and we are solely actuated by a material desire but also with the ~~desire~~ ~~to~~ ~~the~~ desire of increasing ~~the~~ knowledge, which is eternal

more desirable than money and in fact are of the very noblest ends to which money can be devoted.

Hoping, therefore, that the estimates as now presented may prove satisfactory I have the honor to be, Sir,

Your most obedt. Servant,

Benj. Smith Lyman.

Chief Geologist and Mining Expert

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General Estimate of Expenses
of Geological Survey for [illegible] fiscal year, 1876.

1 Chief Geologist and Mining Engineer:

Salary 6 mos. @ $333⅓		$ 1166,66
Horse Hire 6 mo. @ $4		24,00
Travelling exp. @ $6.00		1.200
Two do. 85 d. @ $5		425,00
Station do. 27 d. @ $3		70,00
Assay 365 d. @ $2		54,00
		$ 1770,572

1 Chief assistant geologist:

Salary, 6 mos. @ $70		420,00
Travelling allowance $6.00		40,00
do. 85 d. @ $2		170,00
Station do. 27 d. @ $2		54,00
		683,00

1 Assistant assistant:

Salary 6 mos. @ $150		900,00
Travelling allowance $4.00		24,00
Horse do. 85 d. @ $2		170,00
Station do. 27 d. @ $2		54,00
		1148,00

1 Assistant geologist:

Salary, 3 mos. @ $133		400,00
Travelling allowance 3d. @ $4 per d.		131,25
Horse do. 85 d. @ $4		340,00
Station do. 27 d. @ $3		72,00
		943,25

Brought forward $[illegible]

1 Assisting assistant:

Salary, 3 mos. @ 10 — $30.00

Travelling allowance, pd. at 1/2 — 11.25

Fuel do. 5 lb. @ 7½c. 37.5

Light do. 2 lb. @ 2½ 5c. 5.00

Labourers:

[illegible] — 7.50

[illegible] — [illegible]

[illegible] — 254.10

[illegible] — 175.00

[illegible] — [illegible]

[illegible] — 100.25

[illegible] — [illegible]

[illegible] — 30.00

[illegible] — 33.33

$[illegible]

[illegible]

CTS

Kgl. d. Colon. L. d. Spitze.

Abrechnung für Kopra Juli 1910 – Juni 1911.

1 Schiff Geologie Ausrüstung [illegible]:

[illegible]	p. 12 Mon.	à 125	—	1500,—
Reise Ausrüstung				124,25
Frachtlohn	do.	750 Ctr.	—	3000
Tara	do.	60 à 5 Pf	—	315,00
Assekuranz	do.	750 à 25	—	196,87
Lagergeld	do.	750 à 0,50	—	135,00

1 Schiff weiteres Gerüst:

Löhne, Reise				81,20
Frachtlohn	Assekuranz	Bel. 3%	—	81,00
Tara	do.	1170 à 2½	—	292,50
Fracht	do.	750 à 0,10	—	75,00

1 Segelschiff [illegible]:

[illegible]				
[illegible]	Assekuranz	[illegible]	—	300,00
Tara	do.	60 à 2	—	120,00
Fracht	do.	750 à 0,1	—	60,00

13 Assistent Geologists:

[illegible]	Reise	à [illegible]	—	1560,00
Frachtlohn	Assekuranz	bel. à [illegible]	—	225,00
Tara	do.	[illegible]	—	[illegible]
[illegible]		[illegible]		[illegible]

[illegible]

Leipzig, den [illegible]

Rechnung des Architekten:

[illegible]			
Zeichnung [illegible]	[illegible]		
Zeichnung [illegible]	[illegible]		
Zeichnung [illegible]	[illegible]		
Zeichnung [illegible]	[illegible]		

Bauleitung:

[illegible]			
[illegible]			
[illegible]			
[illegible]			

Für Bauleitung:

[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]			
[illegible]			

Brought forward £2216.0½.

Drawing to Co and instruments inland Road
for sinking pits ——— 30.10
Printing of Reports and maps ——— 200.00
Contingencies ——— 100.00

£2546.10½

Adelaide, 27th June, 1856.

Thos. Hall Register
Geological Surveyor and Mining Engineer

Additional Instruments and Apparatus needed for the Physiological Laboratory of the University.

For the Class of Students

1 Set of Dissecting Instruments @ 8½ — $51,000
2 Medical Dissecting Tables @ 32 — 6,400
6 Small do do do @ 240 — 14,400
12 Dissecting racks @ 70 — 10,800
— Bottles @ 30 — 5,400
6 Pans @ 120 — 720
6 Pails @ 150 — 900
2 Microscopes @ 91 — 182,000
1 Set Lenses for each Do — 12,800
5 Scales for each @ 142 — 2,850
— Aquarium complete — 11,200
12 Glass Jars @ 120 — 14,760
1 Set Glass Funnels @ 75 — 7,500
1 Set Test Tubes @ 150 — 15,000
— Glass rods @ 70 — 4,200
1 Set Corks @ 250 — 2,520
6 Cup Corks Each @ 5 — 5,000
6 [illegible] — 720
— [illegible] — 1,800
[illegible] — [illegible]

[illegible] £393.8.6

[illegible] 120 [illegible] @ 2.5.0 ——— 4.10.0
24 Pieces Flannel assorted @ 12½ — 3.0.0
[illegible] @ 7½ — 2.10.0
2 Pieces Lace @ 1.10.0 ——— 2.0.0
6 Handkerchiefs @ 10½ ——— 0.5.3
[illegible] Silk Lapels @ 6 ——— 3.6.0
4 Pieces Calico [illegible] ——— 1.0.0
[illegible] ——— [illegible]
6 [illegible] ——— 1.10.0
12 [illegible] ——— 0.15.0
6 Pieces Muslin @ 2.0.0 ——— 1.0.0
2 Rolls @ 4.0.0 ——— 0.8.0
6 Pcs Muslin @ 2.0.0 ——— 1.0.0
6 Pieces [illegible] @ 1.5.0 ——— 0.15.0
12 Pieces [illegible] @ 12½ ——— 1.7.6
[illegible] ——— [illegible]
4 [illegible] @ 25/ ——— 1.0.0
2 Pieces [illegible] @ 4.15.0 ——— 9.10.0
1 Piece [illegible] @ 12.0.0 ——— 12.0.0
12 Pcs [illegible] ——— 2.0.0
[illegible] @ 2/ ——— 0.2.0
[illegible] ——— [illegible]
[illegible]

Transferred £381,426

6 dozen Canvas cleaning [illegible] — 2,000

[illegible] 3 Trumpet tacks — 4000

2 Mattocks @ 1/2d — [illegible]

[illegible] Axes @ 1/10 — £120 — £395.626

For the present force:

16 Lanterns @ 2/6 — £10

12 Ropes for candle-lanterns @ 5/- — 3.60

[illegible] for mast drawing tables @ 100 — 7.50

Tent rods @ 1/12d — [illegible] — 1.7.6

£411,826

[illegible] with wanted [illegible] after the [illegible]

Tents (Troops from abroad):

6 Large drawing tables @ 7/6 — £2.17.6

[illegible] Trumpet pennons @ [illegible] — 12.80

[illegible] Hatchets @ 6/- — [illegible]

Pipes for tents @ 10/- — [illegible]

6 Marine Lanterns @ [illegible] — [illegible]

6 Hand Lamps @ 10.

6 Mosquito [illegible] @ 24. — 144.00

[illegible] — [illegible] — £296.30 — 296.30

[illegible]

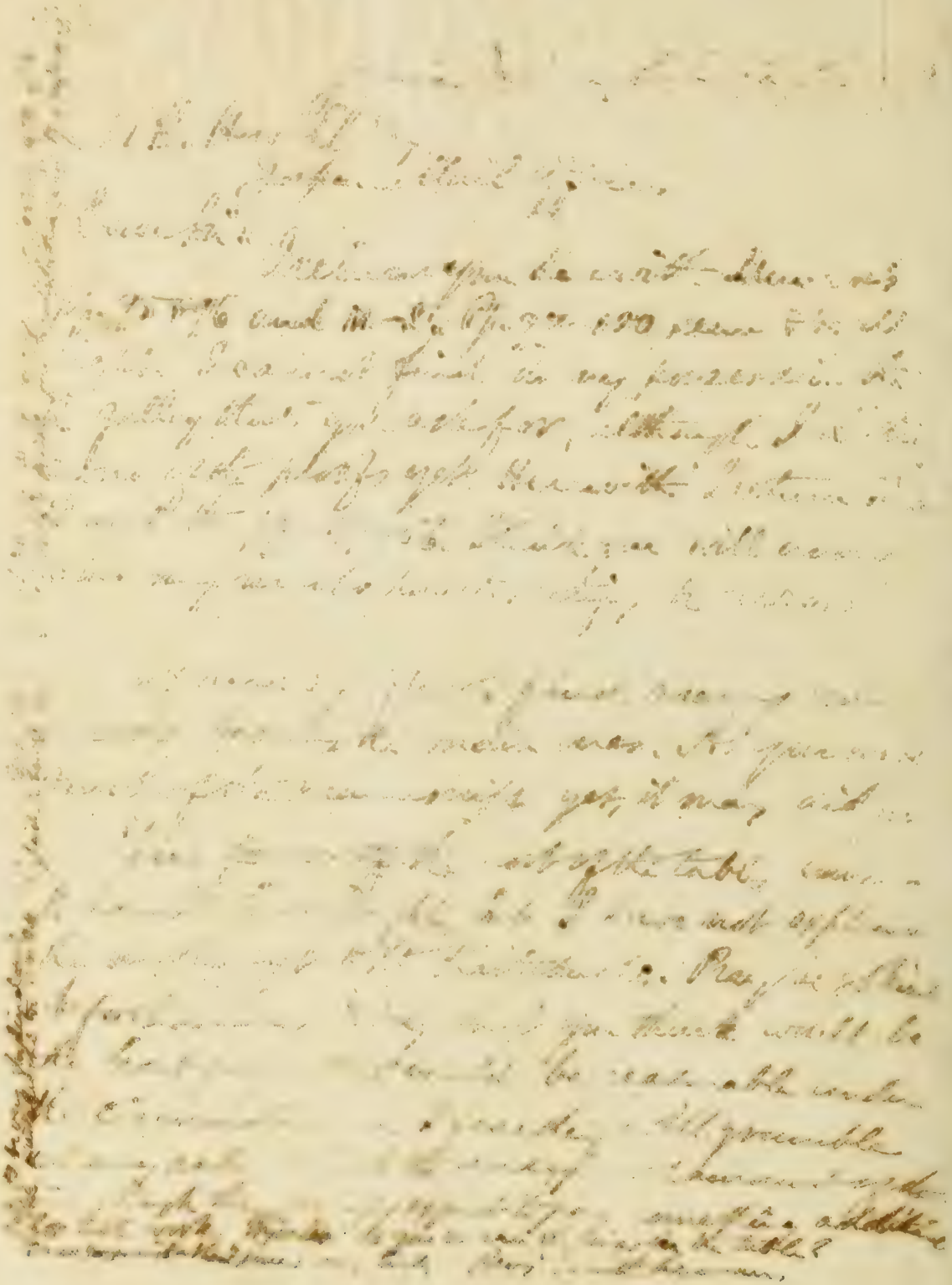
Kombo, Shiba, 23 Jan,
1876.

Dear Mr. Yamauchi:

Many thanks for your
favor of this morning. I
will accordingly attend
[illegible] in regard
of the sale of the instrument
& the Kaitaku Sha, and will
try to write more precisely
about it. Letter in the day,

Yours very truly,

Oshiro Tsuchiyama



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No. 57.

Shiba: 29 March, 1876.

His Excellency K. Kuroda,
Kaitakuchokuwan.

Sir:

Of the Kaitakushi geological assistants who are expecting to join here in the Kuwangiyo-niyo geological surveys one of the best, Mr. Misima, is unable to go into the field this season on account of severe rheumatism. May I therefore recommend very strongly that he be employed here through the summer by the Kaitakushi in finishing some of the large maps we have been making but in which the whole of the work, especially the lettering and some copying, could hardly be accomplished before our departure. There is also a great deal of [illegible] work to be done in writing the labels of the collection of minerals; and for such kinds of work he is particularly well fitted by his natural [illegible] in drawing and writing. [illegible] his legs, but I [illegible] think [illegible] will [illegible] doing such work in the house. [illegible] three months [illegible] have some [illegible] [illegible] employing [illegible] by [illegible] your [illegible]

Under the delay and expence of sending for
Dr. Wade would seem to be fruitless. There will
no doubt be quite enough to do here to employ
my time occupied throughout the season.

I believe that it is his eagerness to have me
to undertake the duties of field work in
the service of the Railroad that has made his
services. Venturing to hope therefore
that he may not be assigned work
for which he is so well fitted as I
find, I have the honor to be

Sir,

Your most obedient servant.

Benj. Smith Lyman.

Shiba, 29 March, 1

H. Kawase Esq.
Kawaguchi Yogoumachi

Sir:

In compliance with the request of your favor of the 24th of the [illegible] I send you herewith estimates of oil well digging expenses for the next seven years, on the supposition that the wells may be dug by contract and under the general oversight of an official. At the same time I must confess that I am [illegible] great ignorance of digging of the circumstances the estimates are very uncertain, as indeed are intended rather to provide for oversight only, & prevent probably any interruption to our works from a deficiency of money on hand.

If the field in oil should prove insignificant the expenses of gathering it would be curtailed, but if it should prove great the amount provided for

the estimates, the first first gathered could perhaps be sold or pledged at time to procure money for [illegible] remainder.

The expense depends almost wholly on the amount of digging that may be accomplished; and that is a point very difficult to foresee, especially as it will depend somewhat on the productiveness of the wells. I have supposed the cost by contract to be at the very most one [illegible] per foot, as Mr. Yarnall suggests, and that the average depth of the wells is only one foot; but if the cost should prove less and the [illegible] greater, the total cost [illegible]

I am confirmed that as the supervision by contract would not need to be [illegible] after half a dozen wells at most, I should not be too far apart. I am uncertain whether some [illegible] could not have been allowed [illegible]

be for example, in a line a quarter of a
[illegible] apart, and require some one to
[illegible] or actively in frequent visits daily.
As the [illegible] wells increase in number
it may be difficult for him to see personally
to [illegible] gathering of the oil in each one
of them, and perhaps the services of such
assistants may be employed. In case local
official or the gathering be done by con-
tract with sufficient care and trust-
worthiness.

You will notice that although the
digging expenses for the whole year are
[illegible] more than in the rough es-
timate for doing that I proposed in
my letter of the thirteenth the cost of
gathering the oil is now set down at
[illegible] than [illegible] saving the yield
[illegible] gathered most cheaply
without a long tube and pump. So
[illegible] the whole amount of the county
[illegible] is much less, and yet
the depth of the wells is more than
[illegible] as great [illegible]

estimate. It is possible, however, that the softness of the rocks that make deep so cheap would enable boring to be rather cheaper than was estimated, it must probably still cannot deserve the sinking. It is a very great advantage that the sinking is already so well understood by the inhabitants of the region that it can be done by contract and so lessen very much the cost of oversight.

It is quite possible that after I have been a little time in Echigo I may find very much to amend the estimate for next year, if it should not be too late to do so.

Hoping, however, that at the present estimates may be of some use, I have the honor to be,

Sir,

Your most obedient servant

Dan. Smith Kinman

Chief Geologist and Mining

General Estimate of Expenses
for digging Artesian Well, Opened 2 June 1876.

1 Pumping assistant:

Salary, 1 year @ £25.	£25.00	
Travelling allowance 365 @ 3½	61.50	
Food allowance 10d. @ 1½	18.00	
Clothing allowance 62d @ 7½	1.94	
	£106.44	
Digging say 2000 feet gravel @ 10	200.00	
Working Expenses:		
13 Drill rods and bucket @ £8.100.00		
Rope	30.00	
Engine tube for 200 feet	175.00	
Casing the well, 200 feet @ 20	75.00	480.00
Contingencies.		300.00
		£886.44

Perry Smith Engineer
& Supt Artesian Well Boring Expenses.

Perth 29 June 1876.

General Estimate of Expenses

for digging Trial wells, July 1876 & June 1877.

1 Engineer assistant:

Salary, 8 mos. @ 25.	$ 300.00
Travelling allowance 21 days @ 1.50	10.50
Board allowance 101 @ 1.50	18.00
Cabin allowance 24 M. @ 12.50	301.40
Digging 12000 feet gravel @ 1.00	1200.00
Sinking 4 oil.	
20 timbers 12 inch @ 12.50	
Rope	150.00
Tanks 10 bbls @ 5.00	525.00
Sinking 4 oil wells, 200 ft @ 12.50	2475.00
Contingencies	300.00
	$ 1476.40

Benj. Smith Lyman.

Chief Engineer and Mining Engineer.

No 6. Thiba, 30 March, 1876.

To Kawas Esq.

Kumangi/Prison

Sir.

My Salary and Allowance have been denied me for the present month as they were for last month in order to recover what was allowed me for the difference in market value between the gold Coin that is stipulated in my Contract and the paper I received for last month's account; but learned the Rate of Exchange that three hundred and seventy gold Coin were worth four hundred and fifty paper Currency making the deficiency in the pay I had made to me 80 Dollars 47/100 paper Currency. I am naturally unwilling to lose so large a portion of my salary, and have therefore requested in that I represent the matter to you.

Trusting that a rectification of the misunderstanding that has taken place on the part of the Prison Authorities may cause no inconvenience, I have the honor to be

Sir, Your obedient Servant

Washington, 30 March, 1875.

Dear Mr. Noyes:

I enclose herewith a letter received this morning from Mr. [illegible] Franklin of the Smithsonian Institution, together with a copy of his letter of last October to Mr. Rockwell. It is possible that we have already communicated to Mr. Rockwell together with Mr. Coffin's communication that were received [illegible] information I have of his own [illegible].

After having seen the letter [illegible] this has not already been [illegible]. I will send a letter as well, [illegible] Franklin's [illegible] Rockwell.

[illegible]

[illegible]

No 52. Shiba, 31 March, 1876.

His Excellency K. Kuroda,
Naitakuchokuwan,

Sir:

I beg to enclose copies of communications received within the last two or three days from Mr. Howell, the business manager of the Japan Mail, in regard to the proposed printing the Minister's report. The labor of printing the tables has been very much greater than that of common text, and a higher compensation is asked for. It seems to me that it would be very just to pay somewhat more for the table work; and indeed I supposed from the beginning that something additional would be paid for it, as I believe was also done last year, though the proportion of such work was then much less.

The second letter was in answer to an inquiry I made as to what Mr. Howell thought would be the best price that would be reasonable under the circum-

Berlin, 31. März 1876.

No 72.

An Seine Excellenz den Kaiserlichen
Deutschen Botschafter
Herrn Grafen von Arnim
Paris

Mein Herr Botschafter!

Ich habe Ihren Bericht vom 25. d. M. No 70 erhalten, in welchem Sie mir Ihre Ansichten über die Lage der Dinge in Frankreich und über die Haltung, welche wir gegenüber den Bestrebungen der Republikaner zu beobachten haben, auseinandersetzen.

Ich bin mit Ihnen einverstanden, daß wir uns nicht in die innerpolitischen Kämpfe Frankreichs einmischen dürfen, daß wir aber auch nicht gleichgültig sein können gegen die Gefahren, welche für den Frieden Europas aus einer Wiederkehr der revolutionären Herrschaft in Frankreich entstehen würden.

Frances", and as to the meaning of the technical term "rule".

I have the honor to be,

Sir,

Your most obedient Servant,

Benj. Smith Lyman.

[Copy.]

Superintendent's Office Ottawa, March 27th 1871.

Dear Sir,

We expect to print the Manuals with the Maps in, and will send you up a copy as soon as they are ready.

Mr Powell told me that I should have your authority to say that in giving you the reduced price of $1.75 per copy for 1000 we had calculated upon taking a large number of copies for ourselves, and that the cost of the work should be divided between the cost of plates & the cost of "printing". If a large edition is not required, very much higher prices than those now charged will have to be charged. If 5000 copies were printed the price would be 35 cts. each, but if only 1000 were printed the price would be 70 cts. each. The reason why we charge so much for the printing of the plates is because we have had to employ extra hands to do the work, and we have had to pay overtime for it, and we have had to pay the men before it. You can refer to me as soon as the work will be ready at about 5 p.m. Thursday.

Yours truly
Faithfully yours
E. A. Powell.

[Signed]

E. S. Lyman Esq.

[Copy]

Gen. Land Office Alabama Nov. 27. 56.

Dear Sir

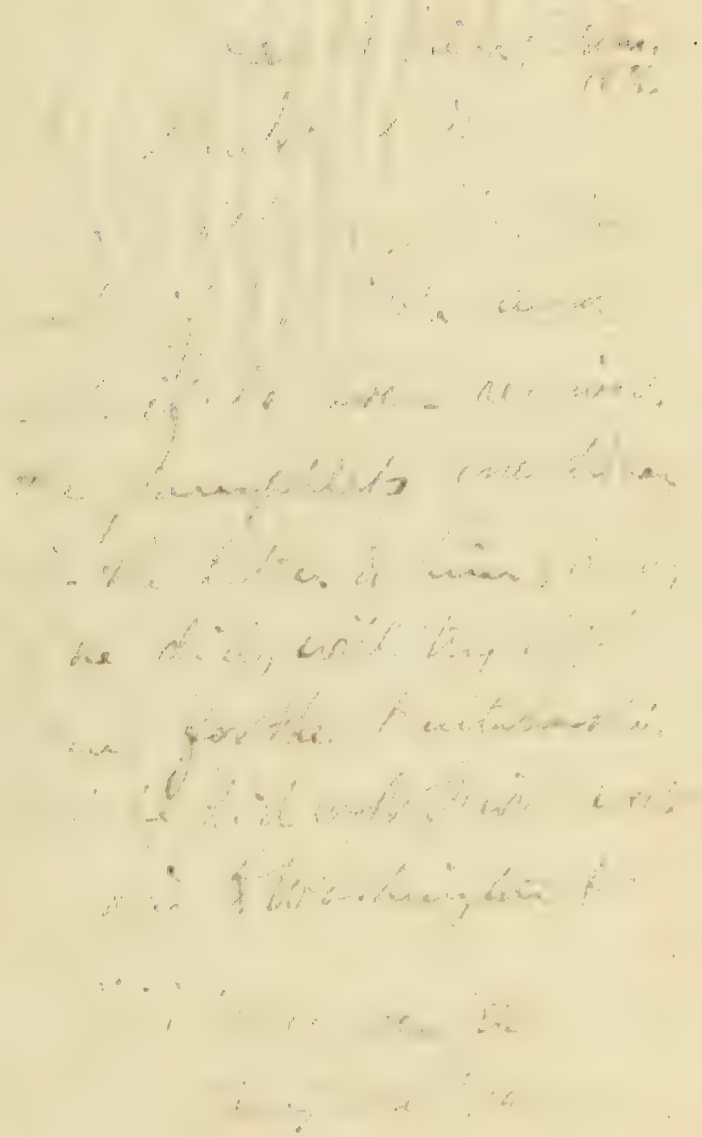
I am obliged by your letter & regret the circumstances of the contract not involved by the labor work. Our foreman maintains that the best workmen over the proportion would be certainly as 2½ to 1. I suppose however it must be case by case. But we shall be allowed double measurement in the forest. This is your will send a Map marked Nos. 1 & 2 of those [illegible] we cut out small pieces for the various [illegible] and this involves time and expense as it will all be done here.

Waiting your Plans

Dear Sir

Yours faithfully

[Signed] H. H. Lovell



No 7.

Kiriwina, 1st March 1895.

H. Kawaa Esq.
Kwaypwaypwai.

Dear Sir

I am leaving off today a little unwell, otherwise quite well & hope you and yours are enjoying the same blessing.

I know of no other means of saving Native Labour than the one which we call "the Native Magistrate system". In all Native communities there is a Chief who makes himself feared & respected & to whom all look up to. Carry out the Regulations given herewith and pay me in gold, and leave the rest to me.

Yrs

Sincerely Richard Bevan.

H. H. Kawaa Esqr.

No 8

[illegible]

[illegible]

[illegible]

[illegible] the undesirability of [illegible] most important [illegible] maps [illegible] nearly a month yet (owing partly to the [illegible] of many of the sheets), I beg to add that [illegible] of this month of any service in the Survey [illegible] and the salary a month may be added [illegible] at the end of my term; so that I may have leisure [illegible] the recent work properly with the aid of [illegible] assistants.

I make the proposal on account of my strong interest in the matter, but seems to me [illegible] important to the government that the Yezo work be properly finished as soon as possible. And those however who are not themselves engaged in [illegible] do not perhaps fully understand the great [illegible] tance, they might possibly suspect that its [illegible] in was [illegible] lengthened out for some [illegible] ment, if it continued to be paid in full [illegible] having already [illegible] two months [illegible] [illegible] and leaving [illegible]

just worked daily until four o'clock and often until five or even much later. Indeed, I find that my health is unable to endure such a strain upon it, and I very much desire the additional pecuniary — which the acceptance of my proposal would give.

Begging you for your approval & kind attention, I am

Sir

Your most obedient servant,

Lieut. Frank Lyman,

Ord. and Mining Engineer.

Boston, August 6, 1878

W. J. Coulter & Co.

Gentlemen:

Shiba, [illegible] April, 1876.

Dear Mr. Rockwell:

By the last mail a letter came to me from the meteorological branch of the War Department in answer to a request [illegible] (7 Nov 1875) to [illegible] Henry in behalf of the [illegible] for some [illegible] pamphlets. The letter to me encloses a copy of one to you (dated 12 Oct 1875) as a full answer to my inquiries.

[illegible] the letter to you also [illegible] [illegible] seven [illegible] copies of a certain pamphlet of [illegible] and a large number of blank forms for the use of the [illegible] with the [illegible] station [illegible]; and they are therefore not sent again. If, however, they have not come to hand I wish to write at once for other copies. — [illegible] [illegible] [illegible] [illegible] [illegible] I could [illegible] [illegible] [illegible] [illegible]

Shiba, 6 April, 1876.

G. H. Howell's Esq.
Japan Mail Office.

Dear Sir:

If you would kindly lend me at your earliest convenience a copy of my reports, dictated together in one pamphlet you would greatly oblige me.

If you had time up to type of pp. 48-57 again, I should like to have it sent me more.

Yours very truly,

Wm. Smith Clark.

[illegible]

№9.

Shiloh 4 April, 1876.

H. Kawase Esq.
Kawaguchi Kami.

Sir:

By the last American mail I received from the meteorological bureau of the War Department of the United States two letters of which a copy is enclosed requesting the cooperation, if possible, of the official meteorological observers of the [illegible]
I therefore beg that the letters may be forwarded to the bureau of the Navy Department that is concerned with the matters, and have already communicated them to the Kaitakushi.

Sincerely hoping that it may prove convenient to aid the contribution and the progress of the meteorology of the whole world in the manner proposed.
I have the honor to be,

[illegible]
Meteorological Bureau
[illegible]

No 9

Mlle, 4 April, 1776.

M. Jerome Dalli
Secretary to
Rome.

Sir:

Office of the Chief Signal Officer.
Division of
Telegrams and Reports for the Benefit of Commerce and Agriculture,
Washington, D. C., January 6, 1876.

Prof. Edgar and Living Engineer,
care of K. Yamauchi, Esq.
Kaitakushi, Shiba, Yedo,
Japan.

Sir:

By direction of the Chief Signal Officer of the Army, I have the honor to acknowledge and answer your communication of Nov. 9, 1875, addressed to Prof. Joseph Henry, Secretary of the Smithsonian Institution, and by him referred to this office.

A circular similar to your request for information in the same purport of Prof. [illegible] Imperial College, Tokio, dated July 25, 1875, was answered by this office [illegible] 1875. [illegible] of that letter is [illegible]

has not been received and the present shall be, you will oblige by communicating it to Prof. Rockwell, informing him of the fact.

A copy of "Form E," of the Instructions to observers, 'agents,' of the "Bulletin of International Meteorological Observations," and of the Annual Report of this Office for 1874 alluded to in the letter of Prof. Rockwell, and would have been Dec. 27/75, are also now mailed to your address as provided in matter.

This office attaches the greatest importance to cooperation on the part of official observers in the Empire of Japan in its labors, especially in all of the simultaneous observations now extended over the greater part of the civilized world, and will render all assistance in its power.

Respectfully yours,

[Signed] Garrick Mallery

Capt. and Bvt. Lieut. Col. U.S.A.

Signal Officer

in charge.

Assistant.

[copy]

War Department

Office of the Chief Signal Officer.

Washington, D. C. [illegible]

Rev. W. T. Rockwell,
Imperial College,
Tokio.
Japan.

Sir.

I have the honor to acknowledge and answer your communication dated [illegible] addressed to Prof. Joseph Henry, Secretary of the Smithsonian Institution, and by him referred to this office, giving information that eight stations for taking meteorological observations are soon to be established in the Empire of Japan, and requesting forms and tables for the record and reduction of such observations.

The Smithsonian Institution has for a considerable time ceased to have any connection with the taking of meteorological observations. All the forms formerly used in such records as

are now reporting to this office, which under several Acts of Congress is especially charged with the duties [illegible] of which are performed by the collection and publication of meteorological observations.

In accordance with your request, 100 copies of the Forms (Form S) used by the correspondents in the system of Signal Service reports, are now at this date to your address, and also eight copies of the Instructions to observers. Sergeant J. [illegible] Signal Service U. S. A." containing all the tables necessary for the above reports as well as many details on the subject of taking observations, and the position and use of instruments, which perhaps may be of use to you.

The Annual Reports of this office for 1873 and 1874 are also forwarded as [illegible] of interest to yourself and the [illegible] officers engaged in collecting the meteorological statistics of the [illegible] Empire.

Every effort is [illegible]

your observations is accepted with pleasure,
but in the hope that one of those obser-
vations will be arrang[illegible] to be made at the
time fi[x]ed upon for the International Sy[stem] [of]
Simultaneous Reports now published
[illegible] Bulletin of International Meteorologi-
cal observations", the issue of which has
been commenced at this office, and a
copy of which is enclosed herewith.
[illegible] [attention] of the observers has [illegible]
[illegible] [importance] for [illegible] pos[ition] of the [illegible]
[illegible] of [illegible], with which [illegible]
[illegible]
[illegible] with [illegible]
[illegible]
[illegible] charts
[illegible] suitable for the preparation of [illegible]
charts, be taken and [illegible]
simultaneously at as many stations as
practicable throughout the [illegible]
present enclosure shows the [illegible]
to which the system is already [extend-]
ed.

The United States [illegible]

with the Department in charge of the Japanese Meteorological System one simultaneous report [illegible] taken daily at 7 A. M. Washington mean time, corresponding with that indicated [illegible] system prevalent throughout Europe, mentioned in the heading of the Bulletin. This hour for Tokio would be 10h 2m P. M.

In the event of such cooperation on your part, the Bulletin would contain the record of the observations at the eight stations mentioned by you. Copies of the Bulletin for distribution to the observers would be regularly mailed to your address postpaid, as a slight acknowledgment of the valuable cooperation requested.

For the purpose of uniformity, the reports should embrace the barometer, (reduced) temperature, wind, and relative humidity and clouds. If your observers could commence [illegible] all of these conditions [illegible]

Tuba, 5 April, 1876.

Dear Mr. Yamauchi:

A Kaitakushi official has been asking me to get a value upon the instruments that his Department is going to sell to the Kumamoto gymnasium. Will you kindly find out for me whether there would be any harm or not in my giving him a value as roughly estimated by me the other day for an account books? Do the things that have been left in pretty good order I reckoned about two thirds of the first cost as (including freight) near as I could guess at it. But for the rest I must ask you and [illegible] Perhaps it may [illegible]

Yours very truly,

Thos. Smith Clayton

He wants an answer from us tomorrow.

№ 10.

Geological Survey of Nebraska.

Report on the Sandstones and Coal Beds of the Tertiary accompanied by a geological and topographical Map of the Country

---

1. Sandstone.
2. Limestone
3. Clays.
4. Coal.
5. Sandstone.
6. Clays.

half of it on either side of a straight line
extending about magnetic West (Mangalia)
from the Bibai coal seam 2 year before
last towards the Sarachi River, and
covers altogether 2,6 square miles. The lines
were kept in order, if possible, to ensure
topography about the limits of the coal
seams coal field. At every station
part of the Hidan was with some of
superficial seam in length were run up
and left, and the course of some of the
principal streams and also taken.

The Examinations during was also visited
by Mr. Kawada, assistant Geologist and
spent about half a month more and
a half in boring obtained there by ex-
plorations and geological sheet
was of the surveyed part of Ishikari

2. Geology of the Coal-field. — The basin
of the Ishikari coal-field is surrounded
neighbourhood east of the Sea of Japan,
and is formed by a series of
right angles by the upper course of the

covered with forest and with [illegible]
[illegible] ([illegible]) [illegible]
[illegible] thickly, a great [illegible]
to surveying.

2. [illegible] — The rock beds of the
survey seem to lie in the form of three
saddles with basins between and with
[illegible]
[illegible] of the [illegible]
[illegible] on the [illegible] side slope of
about 25°, and on its eastern side
about 60°. It [illegible] to the by a
sharp saddle with dip of [illegible] 5°
[illegible], forming apparently a wide
basin as far as the [illegible],
where the [illegible] seems to be [illegible]
[illegible] thick towards the west.
Then a broad saddle seems to [illegible]
the space as far as to the [illegible]
[illegible] to [illegible] along [illegible]
near the bottom of the adjoining
basin easterly, dips of [illegible]
[illegible]
[illegible]

Hanko, Shiba, 6 April, 1876.

Dear Mr. Nagaoka:

The following list contains the values of which I [illegible] the other day the articles borrowed from the Kaitakushi for our Rifle Match, as [illegible] agreed to pay for the same:

[illegible]	$61.20
18 Pistol Cartridges @ 15	1.80
4 Sighting Cartridges @ 10	.40
5 Rifle Cords. 10@25 + 10@12½ + 5@16	6.50
11 Hand Cords @ 7	1.70
13 Pistol Cartridges @ 6	1.10
1 Trumpet and Staff	1.00
6 Targets @ 50	3.00
	$76.90

The Pistol Cartridges used [illegible] which [illegible] by the Company which payment was made by [illegible] Company. [illegible] is reckoned at one half of the [illegible] Cartridges of the first kind, of which [illegible] as I called yours.

Yours very truly,

Wm. Smith-Lyman.

about 1½. From the Nair to the north-eastern end of the Island of no extremes of rock appeared.

The Island of Nair, from, was generally higher than the adjacent parts. The Island presents and sandy hills. Some of these hills are of the two principal varieties that can be distinguished on the coast of the Mediterranean [illegible] Red on the Island of Nair [illegible] Red on the Island of Nair is almost all [illegible] the sea, leaving the shore [illegible] it is possible that the [illegible] would also be found [illegible] the Island [illegible] [illegible] of were more closely [illegible] discovery of [illegible] [illegible] Nair.

The rocks [illegible] the present survey being

It appears, chiefly in the lower part of the section of the Indiana road [illegible] a thin lower depth, and the [illegible] valleys (Coalmine) [illegible] of the Ohio, "Values in the field by means of [illegible] and geological [illegible]:

	Feet
Light brown shales and coal measures	1.30
[illegible] (U743 m)	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
Shale and coal measures (U743 m)	1.00
[illegible]	[illegible]
[illegible]	[illegible]
Coal mixed with [illegible] (K1246)	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
Sand rock weathered brown (U743)	[illegible]
[illegible]	[illegible]
Brown sandstone, weathered [illegible]	[illegible]
[illegible]	[illegible]

	Feet.
Gray sandrock weathered brown	10.00
Gray shale	4.00
Gray sandrock weathered brownish, with fossil shells (11866 ss)	5.00
Dark gray shale	1.00
Gray shale weathered brown, exposed in	2.00
Unknown	5.00
Hard gray clay, exposed, in	3.00
Coal and clay alternate (0754 ps)	
seam a (E473 r), Rhaetic ?	1.5
Hard gray clay, exposed, in	7.00
Unknown	12.00
Gray sandrock (0856 ss) exposed in	1.00
Unknown	113.00
Gray sandy shale weathered brown, exposed, in	2.00
Coal shale (867 s)	3.00
Unknown	15.00
Gray sandrock (11867 i) exposed, in	7.00
Coarse grained gray sandrock	2.00
Coal (N739 ks)	6.00
Shale	43.00
Coarse grained gray sandrock (N739 ss)	7.00

Unknown ——— 19.00

Gray sandrock weathered brown ——— 1200

Do. do. with small black pebbles ———

Gray sandrock weathered brown ——— 1500

Unknown ——— 1300

Very fine black weathered sandrock (stained), say ——— 600

Unknown ——— 1600

Clay shale (very fine) say ——— 400

1553.02

The little watercourse of part of the Esquimalt valley gives us this section as follows: Beds various (downwards)

Sand

Hard grey clay, gravel beds ———

Sand (0784), Sand (2926) ———

Hard grey clay, weathered ———

Good soil ———

Hard grey clay with ———

Fine sand ———

Clay in hard layers ———

Clay in hard layers ———

Coal with sandy [illegible] ———

No 11.

London, 7th March 1876.

H. Kawase Esq.

Kawasaki Yamanaka & Co.

Yokohama

[illegible]

[illegible] Esq.
Chief Assistant Engineer.

Sir,

I beg you will purchase the following articles, with the aid of

---

the seven new Students:

6 Boxes of drawing instruments @ 1/2 — $1.500
2 Middle size drawing tables @ 3.21 — 6.
6 Small do. do. do. @ 2.40 — 14.
6 Drawing rods, @ 35¢ — 2.10
6 Hatchets, @ 90¢ — 5.40
6 Axes. @ 1.20 — 7.20
6 Jacks @ 1.50 — 9.00
6 Tents @ 5.— — 30.00
6 Oil papers for tents @ 3.20 — 19.20
2 Mats for tents @ 1.28 — 2.56
6 Hammocks, chisels and [illegible] — 4.50
12 Leather bags @ 1.25 — 15.00
6 Pocket lenses @ 1.25 — 7.50
6 Pocket compasses @ [illegible] — 12.00

Amt. fwd. [illegible]

Brought forward $29.445

6 Blotters @ 70¢ —— 4.200
6 Slates @ 42¢ —— 2.520
6 doz. Slate Pencils @ 3 —— 18.000
6 Lead Pencils @ 1.265 —— 7.590
6 Memorandum books @ 24¢ —— 1.440
180 Pads @ 12½¢ —— 22.500
24 Quires (Black ruled) @ 12½¢ —— 3.000
6 Portfolios @ 37½¢ —— 2.250
2 Willow boxes @ 1.40 —— 2.800
6 Knives @ 11½¢ —— 0.770
20 qrs paper @ 15¢ —— 3.000
3 Sand sticks (with brass stems) @ 1.80 —— 5.400
800 Candles @ 0.213 —— 17.040
6 Rulers @ 15¢ —— 0.900
6 small boxes @ 8¢ —— 0.480
6 Shaku rules @ 20¢ —— 1.200
2 Rulers @ 40¢ —— 0.800
6 small rulers @ 20¢ —— 1.200
Brass rulers @ 15¢ —— 0.150
2 Paper cutters @ 12½¢ —— 0.250
6 Bottles blue ink @ 25¢ —— 1.500
6 " red do. @ 25¢ —— 1.500
6 Mucilage for desk @ 4.75 —— 28.500

$129.445

Brought forward $3.[illegible]

1 Hijo kanshi @ 12.90 ——— 1.[illegible]

12 Kanna @ 2.0[illegible] ———

6 Tokkuri @ [illegible] ——— [illegible]

6 Dozen Red pencils @ 2.0[illegible] ——— [illegible]

6 Pen-ji-etching pens ——— 2.[illegible]

100 Rice-plates ——— [illegible]

2 Mallets @ 1.20 ——— 2.[illegible]

2 Bowls @ 1.70 ——— 3.[illegible]

$ 373.[illegible]

For the present force:

[illegible] Cartoons @ 2.5[illegible] ——— 3.50

2 Reference Photographs @ 1.[illegible] ——— 2.[illegible]

7 Water-proof Blankets @ [illegible] [illegible]

3 Red mats @ 1.4[illegible] ——— 4.[illegible] 4[illegible].0

$ [illegible]

also:

6 Large drawing tables @ 7.90 ——— [illegible]

The prices given above are estimated please not decidedly opposed to [illegible] recommendations; but of course [illegible] upon them will be satisfactory. The drawing instruments at the head of the list need not be bought at present, as we may perhaps [illegible] in a few days to Yokohama.

Please do not [illegible] [illegible]

[illegible]

Tribes, 7 April, 1846.

Dear Mr. Yamaichi:

Of the things in the ac-
companying list applied for
& be made, I have already
obtained the flies and reels,
the lead pencils and the ferry
leis; and will look in Yoko-
hama for the remain-
ing [illegible]
[illegible]
[illegible]
[illegible]

Shiba, 7 April, 1871.

Dear Mr. Yamauchi:

I was very much interested in the facts you gave us in your survey of the last month in regard to the artesian wells of the Echigo Plain and I have perused & read that perhaps on your present visit to return you and your Companions collected many more facts of value & use particularly and perhaps even of wider importance. If you should find your time hanging heavily owing to the postponement of our departure, why could you not write out as full a description as may be of the different villages you visited and, if possible, of each well, giving the number, name, place, owner, size, depth cost, yield, rock features and any other particulars you may have in regard to the wells? If Mr. Mazeda under your direction would make from your note book a map on a large scale showing the

place to place it would also be very useful to us. Perhaps you or Mr. Stori have already made some written report on the subject and if so I should be very glad indeed to have a copy. Possibly too you may know of some other manuscript or printed book that would give useful if not always quite exact information on the matter, and if so, I should be extremely glad to have at least references to such writings.

Such work would be quite too laborious and take too much time in English, perhaps I could make use of it if written in Kiuikē with Kana at the side.

Very truly yours.

Benj. Smith Lyman

Hard dark clay, exposed perhaps	
Unknown	2.
Hard dark gray clay, exposed perhaps	3.00
Coal (0.821), silt (0781); sandstone (K1045) and (B8894)	1.90
Hard dark clay, exposed perhaps	2.00
Unknown	40.00
Hard [illegible] fine-grained rock, exposed perhaps	1.00
Unknown	133.50
Hard dark gray clay	7.00
Sandstone; same as (U741); same as (U1004); same as (E6004)	1.50
Hard dark clay	
	74.00
Hard [illegible] clay, exposed perhaps	3.50
Stony coal	1.00
Coal	0.25
Coal	4.00
Coal	0.12
Stony coal	1.00
Coal	1.25
Hard clay	10
Coal	
Soft and hard coal, stony, [illegible]	

Feet.

(NTTO) and (EAGLE) ——— 2.25

Black dark clay ——— 1.

Brown sandy clay, with coal plants ——— 1.50

Unknown ——— 132.00

Greenish clay, hard, with sandrock,
weathered brown (OTTO) ——— 12.00

Unknown ——— 12.50

Greenish gray hard sandstone
(OTTO) with coal plants ——— 1.50

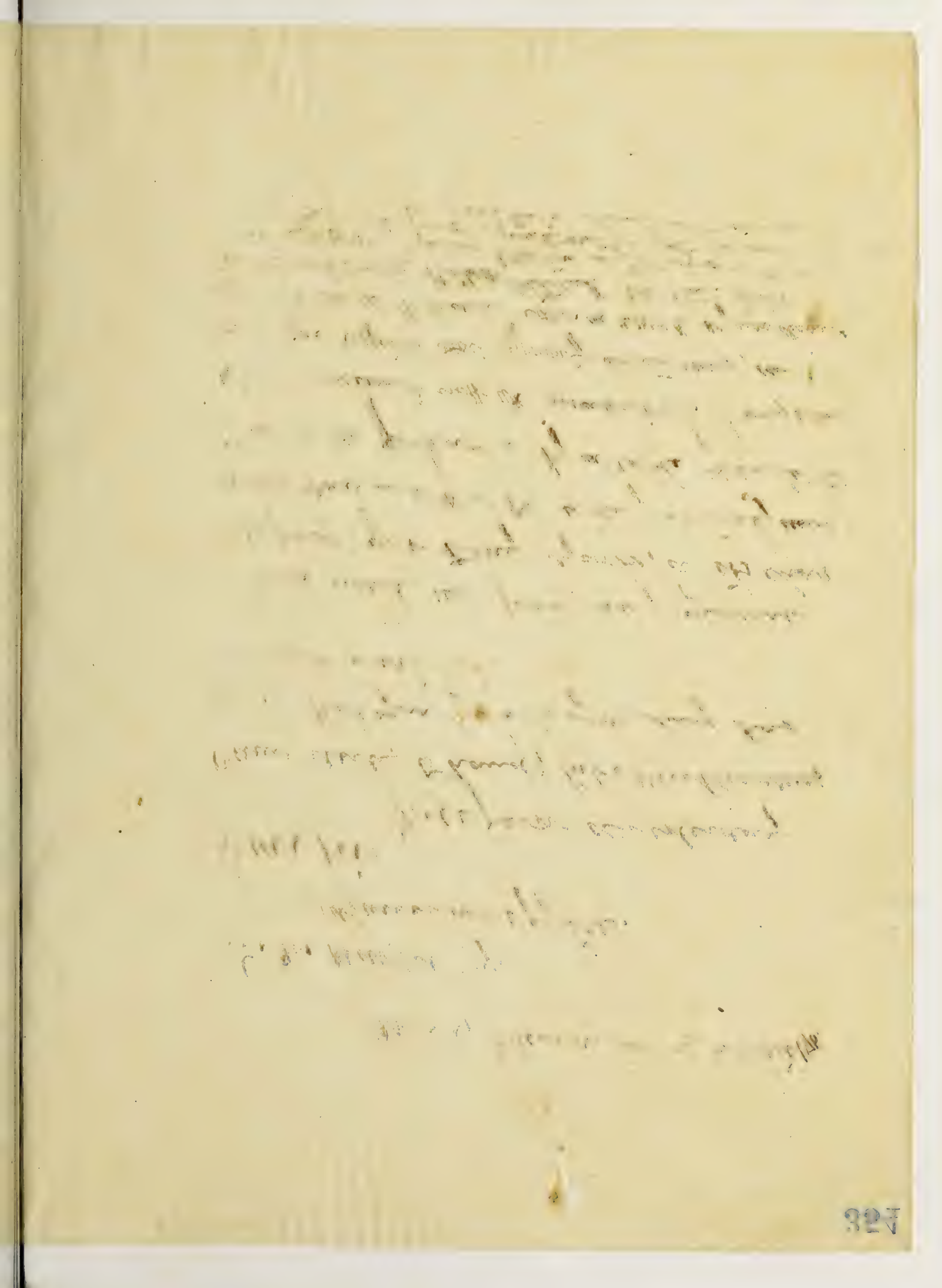
425.10

Thickness of the coal seams are
to be segregated about twelve per cent;
but although agree well with the corresponding
parts of the sections of the coal measures
on the Bibai River.

Remark.— The only known economical importance within the limits of the Bibai is the coal, and of that only the seam known to be worked at present is the lowest one (NTTO), that is the neighboring Bibai mines, and underneath the [illegible] about 175 feet [illegible] the Tertiary coal of the Ishikari

averaging at four places 3.22 feet in thickness, but it does not extend as far as the present survey. It may underlie the ground to the south and so as to bring another outcrop of the bed of N779 coal as mentioned in the description of the Sunkskin coal basin.

The outcrop of the Sunkskin coal basin crosses the valley of the Kaltag River (see letter C) near the mouth of Kaltana Creek and follows the river bank on the left hand northerly nearly to the edge of the survey and sweeping around [illegible] crosses the river again and runs southeasterly to the edge of the survey [illegible] on the other bank, [illegible] the edge of the bank. [illegible] it probably crosses the [illegible] direction, chiefly to the east of [illegible] but soon recrosses the field [illegible] the south and with a general northerly course crosses to the [illegible] ridge on [illegible]



[illegible] and for the Hon. Minister here.

The letter will inform Mr. Grant, [illegible] the same system has [illegible] in use [illegible] by [illegible] the United [illegible] and the Interior Department [illegible] Instruments, in a more [illegible] manner. I now am, [illegible] to [illegible] Meteorological Observatory [illegible] Mr. Grant to [illegible] Department for [illegible] and [illegible] Instruments [illegible] to the [illegible] Observatory [illegible] with the [illegible] Meteorological [illegible] in the [illegible] Mr. Scott, [illegible] a copy [illegible] and [illegible] papers [illegible] Dominion Meteorological [illegible] for [illegible] Observations are published [illegible] and the Reports [illegible] are printed in [illegible] month (or more [illegible] Every [illegible] in the daily newspapers [illegible] Mr. Grant and Dr. Reeve and [illegible] in the High School here (Mr. [illegible] by them [illegible] Meteorological [illegible]

Private Secretary's Office,
Washington, D.C.

Hon. Joseph Henry,
Secretary of Smithsonian Institution,
Washington, D.C.

My dear Sir:

I send you herewith a letter from Mr. Lieber, which I have received from Mr. Bancroft, and which I think you will be glad to see. I have written to Mr. Lieber that I would send it to you, and that I would write to him again when I had seen you.

Yours truly,

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leading northerly under the hill, and
here with a strong coal on the opposite
the rock here rises and with a westerly
course runs to the bank of the river.
is however a spur of the coal
known as the coal of the Kokhiva Valley
[illegible]
a great part of the country and extending
and in possession of the natives towards
the plains among the extensive numbers
of very fine exposures observed there
cannot be laid down with any great
accuracy.

The bed [illegible] at N770 E
on (S780) and also on the hill at (S757 E)
showing 3,60 feet of coal (at the latter place
only) two coal seams with clay partings
on all three exposures with an average
total of 5,75 feet of coal, including some
bone coal. Some of the [illegible]
have to be allowed [illegible]
perhaps not the whole [illegible]
appearance indicates [illegible]
feet of good coal.

coal has yet been won.

The pump enables the space filled by the coal beds to be measured, and thereby, taking the specific gravity of the coal into account, enables us to calculate the quantity of coal to be won, & the weight. The extent of the coal above its lowest natural drainage level (about 240 feet above the sea) within the limits of the mine appears then to be 170 acres giving of a thickness of four feet 1,360,000 tons. Between that drainage level and a level 300 feet lower there would be 180 acres which the power of 120 acres 1,920,000 tons, making in all 290 acres or 3,300,000 tons. But going down to the bottom of the seams at most only about 2,000 feet below drainage level there would be 310 acres more or 2,500 tons making the whole amount of workable coal 790 acres or 6,000,000 tons.

5. Settlement.— There are no public roads or navigable streams or lands

from the coal field towards or parallel
but the Chandebibai, Chanshuzai and Sara
valleys enable roads to be made without
serious difficulty with a continuous and
gentle down grade towards the Sekeari
river about five miles (Dri) distant.
The lower half of [illegible] distance
probably a flat plain and also
the banks of Chanshuzai and Sara
rivers would probably be firm ground
and the road down the Chandebibai
valley & the fact that the river and
in a swamp would have to make
the lower part of the Chanshuzai
line, which would however not ma-
terially increase the distance to the
Sekeari, & the Sekeari from the mouth
of the Sara and Chanshuzai has
probably a depth of great enough
for steamers or barges of at least
five feet draught for a very
moderate height of water, and
probably at least [illegible] feet more in depth
the greater part of the year

days, moreover. Ore will probably be a railroad through the Schoolcraft valley, as far as the Shasta beds of the coal on the Sacramento, about ten miles (Vein xi) beyond the Sink, and such a road would chiefly pass near the foot of the hills and [illegible] of the present survey.

6 Maps. The topographical & geological observations were done in the manner of Maps 3 & 4 [illegible] the assistants [illegible] of Nevada (in charge of the party), S. Marquess, C. Rand, S. Hague, and J. Nisbet [illegible] the latter [illegible] all [illegible] the [illegible] and chaining the side lines and [illegible] and the stations (generally 1/2 a foot apart) were [illegible] with [illegible] angle. The [illegible] of each line and [illegible] before, and the [illegible]

ree wrap by Mr. Koda. The geological
mapping and sections were done by
myself with the aid of Messrs Tsuda
and Koda. The lettering was
written by Mr. Kawada with the aid
of the T. Stock. The whole work
the final map has been done under
my own eye.

The book shows the shape of the
ground by contour lines the difference
in height and the shape of the coast
by water line, but further lines
one hundred feet apart. Each
sheet is 30 feet below water line
with a double line for 60 feet
under level. The place of each
height is also marked on the
by the triangulation. The rivers
streams are marked
depth with respect to mean low water
so that any given point of the
may easily be found on the map
The depth and shapes of the bays
are marked by a red shaded part

I denied early in the winter, in order to give
the direction of the strike and dip and the
[illegible] of the dip were compactly exposed
for convenience [illegible] made of a small rectangular
board with [illegible] adjacent sides, like
[illegible] pocket protractor and [illegible]
to the [illegible] hands. Instead of
[illegible] carried for the dip, one end of
the board [illegible] the [illegible]
the direction of the strike and the head
line held the length of the shaft were on
which side the dip is (as [illegible]
of course & the strike) and the [illegible]
of the hand with the shaft shows the
amount of the dip. A [illegible]
shaft or [illegible] shows the [illegible]
ment of direction or [illegible]
a rough one) two [illegible] shows
in a [illegible]. A slightly [illegible]
of the [illegible] shows the [illegible]
or amount in case of [illegible]
[illegible] completely [illegible]
[illegible]
[illegible]
[illegible] uncertainty of [illegible]

strike. A saddle or anticlinal is shown by a doubly barbed arrow (somewhat like a letter 'w') each barb showing the dip [of] its own side of the saddle; a trough or synclinal by a mark like a [illegible] [illegible] (that is with the two barbs of the arrow drawn in the opposite direction to what is usual). A horizontal rock is marked by the shaft of the arrow crossed by a very short line [illegible] (as if it were the free end of the barb) between the middle of the shaft and its point. The [illegible] is [illegible] of the point of the one barbed arrow. The method seems in convenience and simplicity [illegible] [illegible] general use over the [illegible] [illegible] [illegible] commended

[illegible] [illegible]

[illegible] [illegible]

[illegible]

[illegible]

[illegible]

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Pekin 3 April 76.

G H Howell Esq.
Captain Unit Officer.

Dear Sir

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Yuba 20 April [illegible]

[illegible] Esq.

Kanagawa or Yokohama

Sir

I have [illegible]

[illegible]

[illegible] "Instructions" in large characters.

[illegible] to call [illegible] attention [illegible] "my Contract" [illegible] and [illegible]

[illegible] communicated [illegible]

[illegible] and [illegible] the said [illegible]

[illegible]

[illegible] the Com[illegible] [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

a moment out of my sight and was so small an affair that I did not even suspect that such a thing had taken place until told of it some months afterwards. I do not pretend [illegible] that such virtue is surprising and incredible. Thrasea himself would not have said as much. He experienced what we all feel. But at any rate it was a small affair, and, even if it deserved appreciation from [illegible] Caligula he has already been very amply punished by being held in more than a year in the third year of his small reign.

[illegible] the present prosecution against him is about [illegible] I suppose I ought to add, that [illegible] in a more contemptible and ridiculous manner. [illegible] the suggestion of coming by the same means by which [illegible] suggestion of the [illegible] to a certain degree. I complained that although he was my [illegible], I was deprived of his aid in my office, a complaint against [illegible] justified the absence [illegible] by the Emperor. And this is the gratitude [illegible] Caligula in return for my [illegible] labors on the Tiber! In consideration [illegible] of the value of your [illegible] [illegible] [illegible]

[illegible] in order to complete our maps and reports. Of course I had my own interest in the matter but it was in great measure from its immense importance to the government and especially to the [illegible]. You have perhaps seen my letter showing that the proof of the probable existence of twenty five thousand million tons of coal in [illegible] would in my opinion be worth a million dollars a year to the government. Since that was written I find the amount to be even two or three times greater than I ventured to assert then; worth perhaps two or three times as much, or in round numbers two thousand dollars a day; or taking only one tenth of my estimate [illegible] would be a thousand dollars a day from the moment that the [illegible] becomes widely known to the public. In return for my [illegible] to complete the [illegible] that [illegible], the [illegible] attacks me in the most cowardly manner by giving in every [illegible] a [illegible] of [illegible] merely because he is my friend!

But it is only of a piece with the [illegible] of the [illegible] of the [illegible]. I regret now very much [illegible] some portions of my reports have not [illegible] [illegible] but were [illegible] in printing [illegible] [illegible] [illegible] were done [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

as whether the general government will continue
to keep up a separate government for this island
for or unlike the other islands of Japan, and will
leave in its hands the disposal of the immense
wealth found. You, also have been so fortunate
as to be ignorant of the amount of the
gold millions of dollars that have arrived
here and not on the island, but of which the
is now in the state the ans. to Japan
such as you it will undoubtedly be a matter
of much to see the end of the empire.

Hoping that you may have every success in
[illegible] I remain very truly yours
[illegible]

No. 11. Tribe, 1st Mar. 1876.

H. Kawaue Esq.

Kuwagijo-gorodzuki.

Sir:

of the present results would in like manner be worth to the government about ten thousand dollars a day. Even if the value of such a publication should be only one tenth of what I suppose it would still be a thousand dollars a day. The importance therefore of bringing the proposed [illegible] [illegible]. The publication [illegible] [illegible] [illegible] of [illegible] [illegible] [illegible] [illegible] [illegible] of wealth [illegible] for the [illegible] of [illegible] [illegible] [illegible] nearly [illegible] [illegible] something [illegible] fifteen thousand million dollars [illegible] a matter of great national importance.

The [illegible] were given were only received [illegible] yesterday [illegible] and still need some small corrections.

I have the honor to be,

Sir,

Your most obedient Servant

[illegible]

[illegible]

Shiba, 3 May, 1876.

Gen. F. J. Ord.

Dear General:

I am very sorry to learn by your
last evening that the Minister is much
ill, but I trust your fresh Steamer Ranger.
[illegible] may [illegible] very
pretty that the Italian vessel is two
weeks overdue and is completely lacking in
any line of really speedy [illegible] and
by a few days at least may even
by a few days be a mistake.

We took such a lively interest in trying
to keep one here on Japan for a real enjoyment
I might [illegible] a few pardon for this
to merely answer to mark that after the
[illegible] of your government and hoping it
[illegible] favor the plan. It is very clear to me
[illegible] is a great injury to
the Americans, that [illegible]

No 5. Phila, 2 May 67.

H. Kawaza Esq.
Kawaguchi Gonnosuke,
Sir:

I have to thank you for your letter
of 7 ult. just received, and by
the same mail have received the
[illegible] Kawaguchi; and I
[illegible]

Shiba, 1st May 1876.

T. Yamauchi Esq.
Chief Assistant Geologist

Sir:

In compliance with instructions from the Honorable [illegible], I have to say that you will please accompany me on a trip to Echigo and Shinano to survey oil lands.

I have the honor to be,
Sir,
Your most obedient servant,
Benj. Smith Lyman,
Chief Geologist & Mining Engineer.

Lahore, 1st May 1876.

M. Mayne Esqr.
Regimental Assistant.

Sir,

I am directed to transmit for the information of Lieutenant Colonel Hamilton, Commanding the 1st Battalion 1st Regiment Punjab Infantry, the accompanying copy of a letter from the Secretary to the Government of India, Military Department, No. 1 dated the 1st instant, and to request that you will be good enough to furnish the Commanding Officer with the information called for therein.

I have the honor &c.

Lieutenant & Adjutant
1st Punjab Infantry.
Officiating Deputy Assistant

No 16. Hilo, 5 May 1876.

H. Kauwa Esq.
Kauwagroup Lane

Sir

Leeds, 8th Sept 1876

Lt. H. Stanley Esq
Deputy Assistant Commissary General
Dear Sir,

I beg to apply for Warrants
for 90, 93, 95, 97–99, 102, 103, 105,
& 106 Field Companies,
& the Staff Sergeant 107,
Corps & Be all right; and
also Secrets & Ste corrections
you might find it convenient
if you could let me have
[illegible]

No. 19. [illegible] May 18[illegible]

Hon. M. Matsudaira [illegible]

Kwangiyoriyo [illegible]

Sir:

Your favor of today requiring me to start on my journey at the earliest moment possible, and hoping myself to finish my reports or resume them after the journey, is at hand.

I shall be happy to start as soon as the needful preparations for the journey can be made; for the change will be agreeable to me personally, although it [illegible] to me highly [illegible] of government, owing to the fact that the very great delay in regard to the reports appears [illegible] greater [illegible] a [illegible] delay in beginning the new survey, which is all [illegible]

more the [illegible] for [illegible] than [illegible].

Your brief acknowledgement in your last letter did [illegible] and [illegible] the [illegible] knowledge of the [illegible] [illegible] in [illegible] [illegible] striking mark of appreciation [illegible] had received from the government. I [illegible] assure you that although the government is not [illegible] [illegible] further, not [illegible] a single day of [illegible], I may not be [illegible] that my [illegible] [illegible] my reports [illegible] [illegible] [illegible] [illegible]

[illegible]

[illegible]

[illegible] with my [illegible]

[illegible]

[illegible]

[illegible], 25 May, 1876.

Gen. [illegible],

N. [illegible] Cho.

My dear General:

I received the other day th[e] [illegible] the Government was not in readiness at all [illegible] [illegible] to get my [illegible], and accordingly [illegible] [illegible] the necessary [illegible] very unusual [illegible] [illegible] time; but I learned yesterday [illegible] that the lithographer could not possibly (in his opinion) print the general geological map of [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] map of [illegible] the province that the [illegible] [illegible] [illegible] the map. I urged the matter upon the lithographer as strongly as [illegible] could, but perhaps you can bring some [illegible] influence to bear upon him; [illegible] [illegible] that at least [illegible] map should be [illegible] [illegible] and corrected [illegible] couple of days before my starting.

I am anxious, however, to see whether the [illegible] [illegible] [illegible] [illegible].

[illegible]

Jouvin, Daimon, Shiba, Yedo Japan, [illegible] 1876.

[illegible]

Gentlemen,

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

May 1876.

Sir,

I have the honor to acknowledge with many thanks your favor of yesterday inclosing the Medal of Honor awarded to our late brave Surgeon Dr. Kittredge since deceased.

I beg to decline the gift and return it herewith for the same reasons as offered by the Kittredge in December, and for the additional reason that the service of which I was a member on the expedition standing that no remuneration should be received from the Government; with much gratitude I have the honor

to be

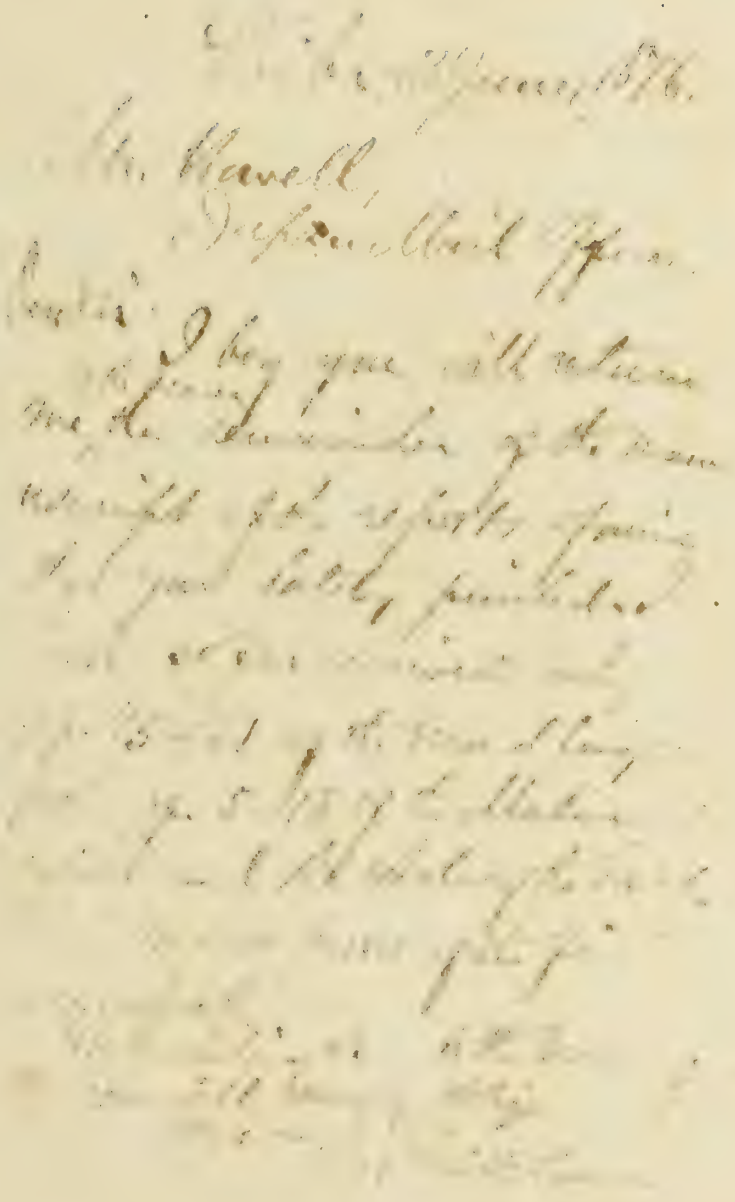
Your most obedient servant

Surg. U.S. Army

Tōkyō, Daimon, Shiba,
June, 1876.

Konnichi.

I do not think
[illegible] Tuesday 5 June;
[illegible] you will be
[illegible]



[illegible] may [illegible] be added to the treaties or
[illegible] treaty as the subject be made. Although a
[illegible] view of [illegible] will be taken
[illegible] jealousies of foreign ministers
[illegible] against any [illegible]
[illegible] of foreign [illegible]
[illegible] already [illegible]

[illegible] may be [illegible]
[illegible] Tuesday [illegible]
[illegible]

Respectfully
Your [illegible]
Wm Wirt Esqr

Ex libris

472

475

478

Stockholm, Sweden,
20 June, 1876.

White Langshan Hens.

Athenaeum Dublin 22 June 73

My dear Mr. Cuddeford,

I never received from you the [illegible]
[illegible] for forty pounds [illegible]
of Fisher Son & Co. London; and in [illegible]
[illegible] of my letter of Enquiry about it. I
had it thus was some misconception. Have you
or perhaps can you send my balance now
or will it suit with all [illegible]
and can send [illegible]
as the year is [illegible] but a [illegible]
I would [illegible]

[illegible] me a line addressed [illegible]
[illegible] Ingram Key and Otley

Yours very truly

Jno. Todd Ingram